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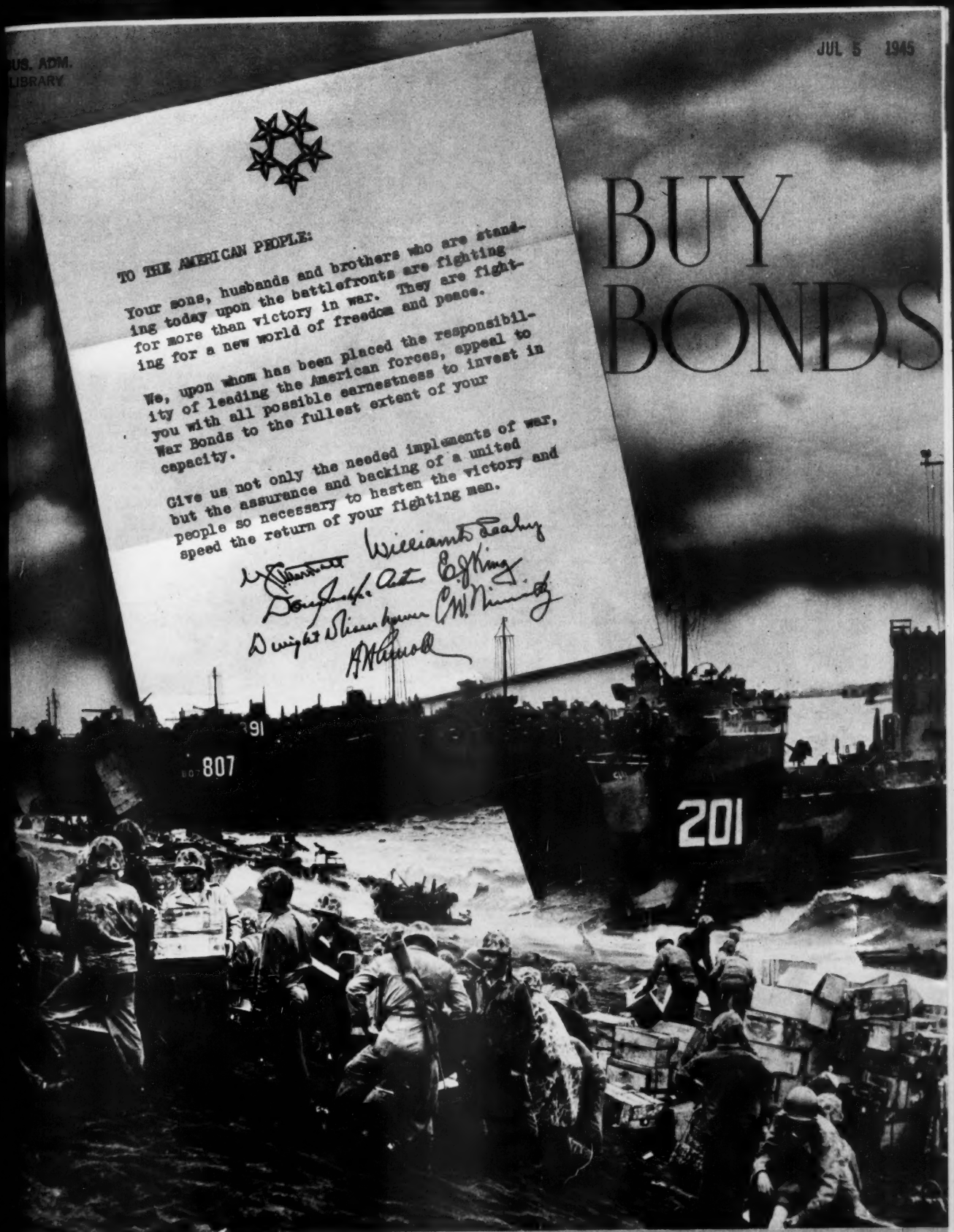
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THIRTY-FIVE CENTS PUBLISHED BY DUN & BRADSTREET, INC. MAY, 1945

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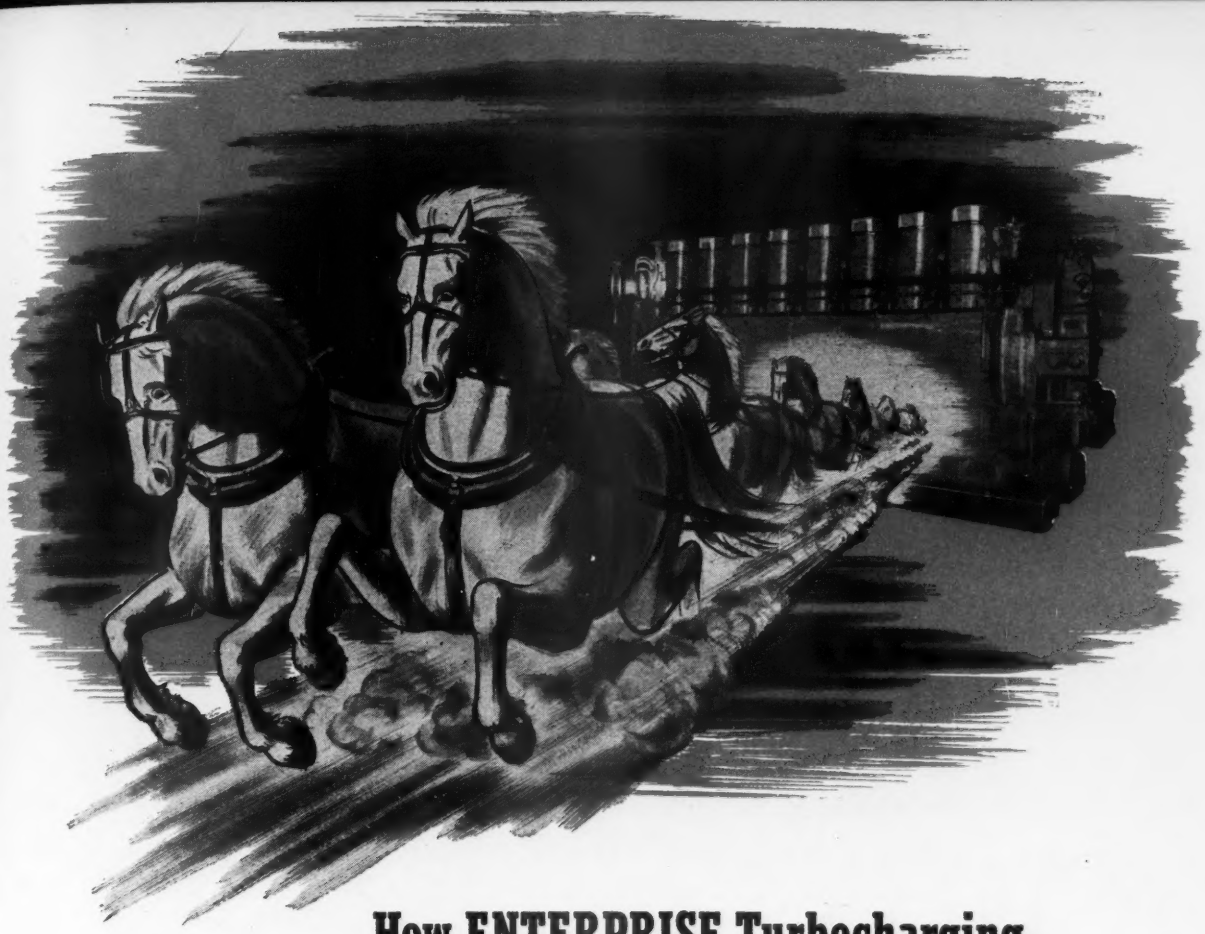
DUN'S REVIEW, May 1945. Published monthly by DUN & BRADSTREET, INC., 290 Broadway, New York 8, N. Y. . . . Copyright 1945 DUN & BRADSTREET, INC. . . . Subscription information on page 64. . . . Frontispiece from Monkmeyer.

The Cover

THIS MONTH DUN' REVIEW—*along with most magazines—again cooperates with the Treasury Department by using its front cover for an appeal for the purchase of war bonds. The cover print, from a photograph by Harris & Ewing, shows supplies pouring unto the beach at Iwo Jima a few hours after the Marines had secured their foothold upon the island. There is reproduced a letter from America's five-star admirals and generals urging us all to invest in war bonds to the full extent of our capacity.*

IN JUNE, *Edwin B. George will continue his presentation of "Gross National Product Projections for Full Employment"; the article will discuss forecasts of the post-war labor force.*

THE DUN'S REVIEW *Regional Trade Barometers measure the month-to-month trend of consumer expenditures for each of the 29 regions and the United States. There are available to users of the barometers lists indicating the location by barometer regions of counties and of cities with more than 25,000 population. A description of barometer use is contained in the reprinted article "How to Use the Regional Trade Barometers" available upon request.*



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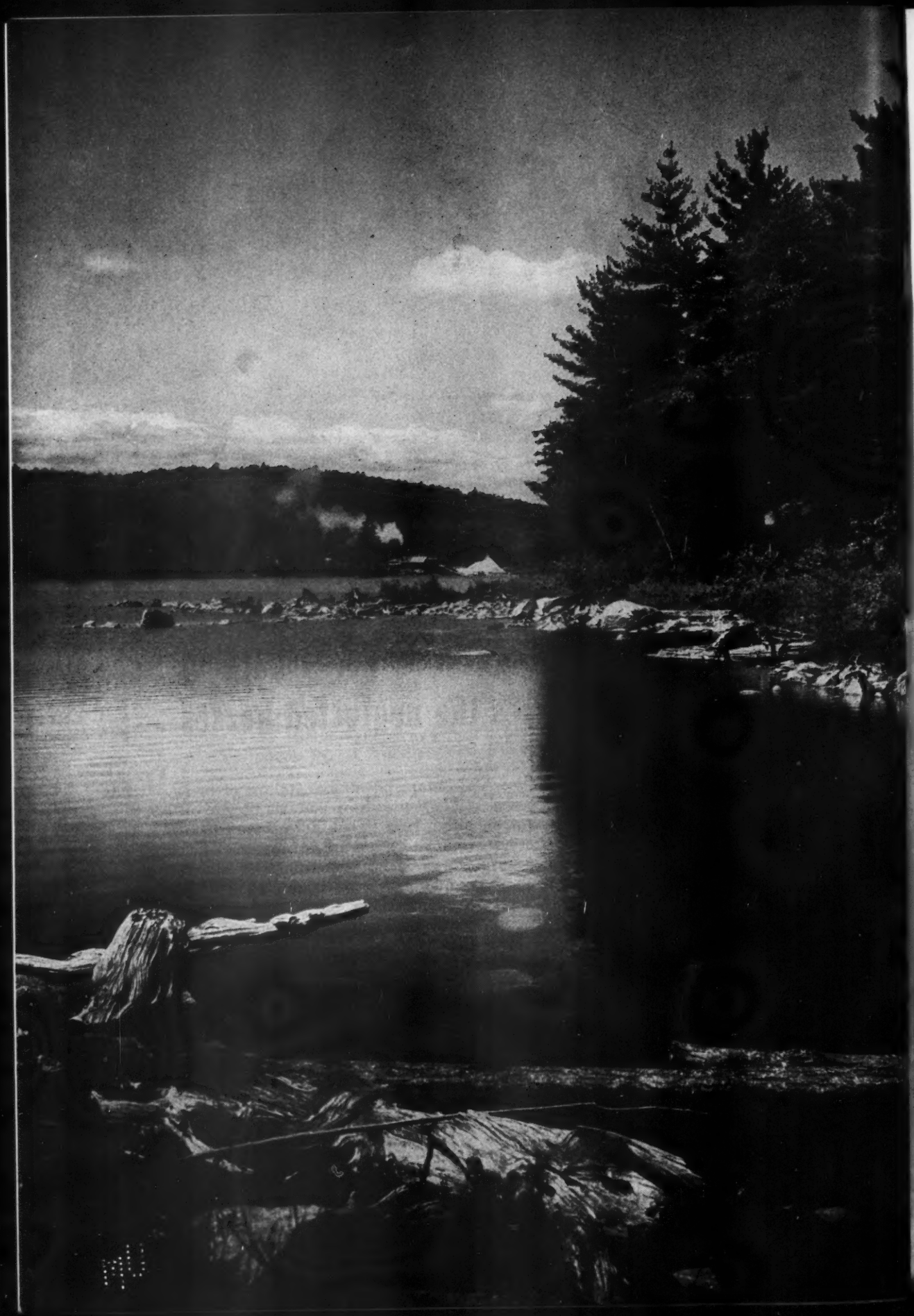

HOMESTEAD STEEL WORKS, RANKIN, PA.—GALLOWAY PHOTOGRAPH

GROSS NATIONAL PRODUCT PROJECTIONS FOR FULL EMPLOYMENT

II. Contrasting Estimates: Range and Reasons

EDWIN B. GEORGE
Economist, DUN & BRADSTREET, INC.
Associate Editor, DUN'S REVIEW

WHAT size Gross National Product will be needed for full employment after the war? Why do different estimates vary so widely—from $122 to $220 billion? In answering these questions, Mr. George puts the most commonly used estimates on as nearly a comparable basis as is possible, eliminating differences due to concept, base years, price level, and examines the reasons for the remaining differences.

GROSS National Product should be designed to measure the total market value to final users of all of the goods and services produced in this country in a given period.[1] In the name of full employment so many post-war figures for GNP have been bandied about as to suggest Euclid on a binge. The principal trouble is that they actually stand for many different things, and are computed for entirely different years (from 1946 to 1950) and in terms of different assumptions as to probable price levels in 1950 (such as those of 1939, 1941, 1943, and 1944).

Considering that during all this time the population was continually to grow, recovery from the dislocations of war was to take place at an unpredictable rate, and old peace-time trends toward continually higher output per man were likely to reassert themselves, the results would be bound to differ by many billions of dollars even though procedurally the statisticians swung their pencils with the rhythm of Rockettes. The principal concern of this article is to put the several estimates on as comparable a basis as possible, and examine the reasons for the differences that remain. Even should the most convincing figures so far developed be later found wrong, there are at least three good reasons for familiarizing ourselves with the nature of the calculations:

1. At least we are having excellent skull practice in setting up a national goal. Continued controversy over techniques must result in gradual improvement—even to the point of entensive substitution or modification on dynamic grounds if necessary.

[1] The previous article in the March DUN'S REVIEW examined the war origin of the concept of Gross National Product, its background in the old and trusted National Income series, the war need for a new yardstick of national resources and activity, its possible usefulness in war and in peace, and specifically, its sudden currency as a measure of post-war employment problems.

The Way the Figures Looked when They Came Out:

I. Postwar Projections of Gross National Product at Full Employment

(As presented by the several authors without adjustment.—"N.A." means "not available.")

Source	Labor Force (Millions)	Unemployed (Millions)	Armed Forces (Millions)	Civilian Employment (Millions)	Total Employment (Incl. Armed Forces) (Millions)	Hours per Week	Annual Percentage Increase in Output per Worker[1]	Gross National Products: Billions of Dollars	Year	Price Level
Livingston[2] (Department of Commerce)	59.4	2.0	1.9	55.5	57.4	1940	2.5% per man hour	$165.0	1946	1942
Hagen (Federal Reserve Board) & Kirkpatrick (O.P.A.)	60.0	2.0	2.0	56.0	58.0	[3]	2.1% per year[4]	152.5	1950	1939
Mosak (Office of Price Administration)	62.8	1.5	2.5	58.8	61.3	1939 average	as of 1944	190-220	1950	1944
Woytinsky (Social Security Board)	59.0	2.5	3.0	53.5	56.5	1% below 1940	25% per man hour 1940-1950	182-190	1950	1944
Mayer (Brookings Institution)	59.0	3.0	2.0	54.0	56.0	40	[5]	146.0[6]	1947	1943
National Planning Association	61.5	1.5	2.5	57.5	60.0	40	2.3% per year	170.1	1950	1941
Tucker (General Motors)	58.3	3.0	2.0	53.3	55.3	less than 1941	N.A.	122.0	1950	1935-1939
Johnson (J. Walter Thompson)	62.0	3.0	2.0	57.0	59.0	"normal"	N.A.	200.0	1950	1944
Fortune	59.4	4.0	3.5	51.9	55.4	"prewar"	2.5% per year	165.0	1946	1943
Slichter (Harvard University)	N.A.	N.A.	N.A.	N.A.	57.0	7.5% less than in 1944	N.A.	187.0	1950	1943
Prince (Gen. Elec.)	59.0	2.5	2.5	54.0	56.5	N.A.	as of 1941	135.0	1947	1941
Hansen & Perloff	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	160.0	1947	'29 or '42
Goldenweiser & Hagen (Fed. Res. Bd.)	60.7	2.0	N.A.	N.A.	58.7	1940 average	10% for 1940-1947	169.9	1947	1943

[1] The rates are compounded annually.

[2] "Markets After the War"—Mr. Livingston's first and widely publicized analysis. In a subsequent address before the American Statistical Association (December 28, 1944), Mr. Livingston extended his estimate from 1946 to 1950, with appropriate adjustments in labor force and other pertinent factors. In this projection to the later year he also shifts his productivity increase estimate from an output-per-man hour to an output-per-man basis (2.5 per cent and 1.7 per cent respectively). The effect of the change in basis is to project the downward trend of working hours as well as the upward trend of productivity.

[3] *See footnote 7, table II.*

[4] Analyzed by industrial segments and not through over-all projection from a prewar year. The resulting total GNP represents an average annual increase per worker per year (compounded) in constant prices.

[5] Dr. Mayer recognized the possibility of productivity advances but felt that those up to 1943 would be taken care of by his selection of 1943 as the year from which he projected, and that from 1943 to 1947 any that did occur would be necessary to maintain 1943 wage rate and profit levels or be translated into lower prices for consumer goods. He mentioned no percentages.

[6] Brookings anticipated a national income of $123 billion in 1947. These estimates are in National Income terms but the data permit extension to an equivalent GNP basis as above.

2. The necessary relationship between total goals and individual performance requires business to be familiar with the detail of GNP. This helps both men and organizations to think more clearly about (a) their own long-range plans, which in the last analysis do depend on the fortunes of the whole country, and (b) the more strenuous debates on public policy that are sure to come.

3. There is always the possibility, now or in 1950, of some administrative or Congressional mood that will seize on a still unimagined high or low figure and rush it into public policy. If they do so free of informed technical and business criticism the responsibility for any error would belong as much to business as to that particular administration or Congress. The latter can only act on the evidence that they have.

In the process of examining underlying details, our concepts for the better analysis of national problems are themselves given a good going over. If there is a big gap between the GNP actually forecast for any given future year and the GNP calculated to be necessary to full employment, what can business do to plug it? If business cannot do the job by itself, what kind of "help" will the Government want to give it, and what kind of "help" will business be willing to accept? And if business and Government jointly can't fully pull the edges of the economic fabric together in old-fashioned ways, how about piecing it out with more Government bonds? In post-war economics will the public finally regard such repairs as the patches of reduced circumstances, or as invisible mending on a garment that otherwise still has plenty of good wear?

These are all proper questions. They did not require a new mathematical formula to raise them. They would be with us anyway. But the reduction of abstract economic problems to quantitative terms, as so many dollars' worth of unemployment, or of inadequate production, is a convenient way of posing them, *provided* the new measurements are valid and firm.

How are these measurements made anyway? Why do they seem to differ so widely? We had better get these questions settled first. If the experts can differ by as much as $30 billion to $40 billion in fixing a full employment goal (not to mention the $100 billion or larger spread that sometimes results from mixing up measurements of different things), why should the layman be shy? He has already been identified as the man over whom the doctors

are waving their knives. It is no new rôle. He has always had a fascination for scientists as a good subject for social vivisection, and better understanding of vogues of thought among the surgeons may lessen his dependence on luck.

The big figures in the various full employment GNP estimates are important not in any decimal sense at all, but rather as evidence that something big will either occur of itself in this country after the war or will have to be made to occur. There is not too much sense in bickering over minor or even moderate disagreements. An error of $20 billion out of a possible $200 billion for 1950 should not kick up more than a light billow for a ship of state as large as ours, and if we can get certain fundamentals settled it should be hard to contrive a larger error than $20 billion. In view of the improvements even now being made in our current data,[2] by that time

[2] For example, the Census Bureau is now making periodic employment and unemployment surveys in much greater details than heretofore. In May 1944 it revised its sampling procedures and system of weights.

Areas of Agreement

I. General: An adequate post-war GNP must be substantially higher than any pre-war achievement if serious unemployment is to be avoided.

II. Labor Force:

1. The size of the labor force will continue to increase with our still increasing population, although at a declining rate.

2. Pre-war trends toward longer education and earlier retirement will continue.

3. A substantial majority of the 6 to 7 million emergency war workers will retire from the labor force.

4. The loss to the potential labor force because of war casualties is generally estimated to be in the neighborhood of ½ million men.

5. The nation's military forces will be much larger than before the war, thus reducing both the dollar value of total national output at full employment and the scale of responsibility for civilian employment.

III. Increased Productivity per Worker: Output per worker will continue to be pushed upward by (1) the long term peacetime shift from agriculture to industry, (2) increasing mechanization, and (3) improving efficiency of organization and management. To some extent, however, this effect will be offset by the gradual shift of workers into the service trades where the output per employee is lower than in industry. With some estimators these factors, although recognized, are not explicit in the methods they use.

IV. Prices: These statistical calculations of GNP do not attempt forecasts of post-war price behavior. They make projections of various past price levels, some of which are pre-war, some at selected points along the wartime rise. The reason for taking one or another is merely to permit final expression of post-war full employment estimates in comparable dollar terms.

V. Length of Work Week: Scheduled hours of work are in no case assumed to be longer than pre-war, and in some cases shorter. The work week length assumed in the different estimates (scheduled and actual) may show an extreme spread of around 3 per cent.[1] No allowance has been made for it in this summary because of the complications involved in comparison with its importance. It remains a floating differential to be disposed of at the reader's pleasure.

[1] The calculation is that of Mr. Everett S. Hagen.

Areas of Disagreement

I. General: Expressed as nearly as possible in comparable concepts, terms, and price levels, the dollar volume of gross national product related to reasonably full employment in 1950 ranges roughly between $156 billion and $206 billion; with a substantial majority close to $200 billion.

II. Labor Force:

1. Some believe that post-war circumstances will be such as to sharpen pre-war tendencies toward longer education and earlier retirement, thus carrying below projected "normals" the size of the labor force for which employment must be provided.

2. Estimates of the number of emergency war workers who will remain in the labor market range from ½ million (merely offsetting war casualties) to 3 million.

Without refinements, contrasting views about the size of an effective post-war labor force can make a difference of $13 billion to $14 billion in the 1950 GNP.

III. Increasing Productivity per Worker: This is the area of sharpest disagreement in judgment and widest difference in results. Due to shifts of labor from low dollar output to high dollar output industries (per capita), improving technology, steady progress in management and labor skills, the growth in value of output in this country has consistently outstripped even the growth in number of workmen despite declining working hours. Will this steady historical increase in output per capita continue, and at what rate? Some analysts see the old drive and opportunism numbered by the need for collective adjustments, reviving slowly and at best tapering. . . . Youths cannot grow as rapidly as infants, however real and positive the years of achievement that still stretch ahead . . . there must be an end sometime to geometric rates of expansion. The rebuttal: America will not be called dead . . . much has been learned in the war . . . 1950 is sufficiently far off to allow old instincts to reassert themselves, near enough to keep the effects of national aging imperceptible. At its widest point the spread in views on this item accounts for nearly $40 billion.

IV. The Labor Float, or Frictional Unemployment: All agree that air-tight efficiency in utilization of the labor force is impossible as well as undesirable, and that men will at least temporarily be thrown up on the banks by the very velocity and vagrancy of economic currents. As to how many they do not agree. From 1½ million to 4 million at the extremes, accounting for another possible $6 billion to $7 billion variation in full employment GNP.

we should have actual counts or better samples instead of being obliged to derive this and that from that and this.

What does matter is that such errors be minimized as arise merely from confusion over the content or significance of whatever measures we decide to use. Or from an illusion that such complicated fuss-budgeting will ever get through to the public anyway. In England Sir William Beveridge's "Full Employment in a Free Society," making uninhibited use of such learned concepts as National Income and Gross National Product, has been reduced to a pocket-sized edition that is reported to be selling like hot cakes.

Superficially, we seem in this country to have been presented with a shockingly wide assortment of views on a "must" GNP for 1950. It is a favorite opening with many writers on the subject, and with considerable excuse. Look at table I, particularly the column under Gross National Product labeled "Billions of Dollars." The figures sprawl over a range of $122 billion to $220 billion. A table running from $100 billion to $240 billion could have been compiled of merely informal quotations. Difficulties frequently arise from the comparison of unlike concepts, a number of which were differentiated with some care in the previous article.

As the diverse estimates in table I rolled off the press, is was not hard to imagine the impressions to which they would collectively give rise. Quiet diggings seemed suddenly to exude an atmosphere of Wall Street. A big day, gowns rustling with movement and excitement. "What's the latest quote on GNP's '50?" "They've just crossed $200 billion and I'm cutting myself in for another piece. I've got it straight from the horse's mouth that they'll hit $300 billion." And they probably will, in time, if we don't atrophy.

Actual business reaction to the rising figures depended largely on the imagination and the worrying capacity of the individual. Opinions wavered between "Woe is me," and "So what!" Some business men who knew their national statistics felt that most of the goals were astronomical and could never be reached. Others laid plans to reach their share of whichever one they selected. Others continued to scoff at the possibility of developing exact statistical measurements for such a complex objective, and wanted principally to be let alone.

Many, however, without being entirely aware of the reasons for the confusion, recognized the usefulness of setting up even approximate benchmarks. Both because of and in spite of their appreciation they found amusement in the thought that if the achievements of 1929 had been made a "must" for the business man of 1920, he probably would have fainted. But conditions are emphatically different, and figures of this kind do not have to be right if the right sense of awareness is introduced.

PATTERN-MAKING, REPUBLIC STEEL CORPORATION, FARMINGDALE, N. Y.—NESMITH PHOTOGRAPH FROM CUSHING

Estimates on Common Basis

Table II tells a quite different story. There is still a range, but it has narrowed to between $156.4 billion and $206.5 billion and the figures cluster heavily toward the top.[3] There are still differences in the supporting detail underlying the two presentations. As nearly as possible, however, differences arising merely out of different concepts and the use of different base years have been eliminated.

The atmosphere of table II is much calmer. Our main interest is in the differences that survive in that table. These result not from accidents of base or purpose, but primarily from genuine differences of opinion regarding the several factors on which final conclusions depend. Strictly speaking, the GNP dollar figures that finally staggered off the statistical production line were only the fabricated end product of a number of technical decisions made at various stages in the production process.

The real decisions were on the number of people who will want employment, the depth of the minimum cushion of unemployment needed for over-all flexibility, a guess as to the

[3] Not quite all of the entries in table I appear in table II because of lack of sufficient detail for adjustment to a common basis.

The Way the Figures Looked when Put on a Common Basis:

II. Postwar Projections of Gross National Product at Full Employment[1]

(In 1950 valued at 1943 price level.—"N.A." means "not available.")

Source[2]	Labor Force	Unemployed	Armed Forces	Civilian Employment	Total Employment (Incl. Armed Forces)	Hours per Week[3]	Annual Percentage Increase in Output per Worker[4]	Gross National Product (GNP in 1940 was $97.1 billion; in 1943 dollars comparable to the table, it was $125.0 billion.)
	Millions	Millions	Millions	Millions	Millions			Billion
Livingston (Department of Commerce)	60.4[5]	2.4	[6]	[6]	58.0	about 1939 hours	2.3% per year	$193.6
Hagen (Federal Reserve Board) & Kirkpatrick (O.P.A.)	60.8	2.0	2.0	56.8	58.8	[7]	2.4% per year	198.0
Mosak (Office of Price Administration)	62.8	1.5	2.5	58.8	61.3	1939 average	2.1% per year	200.0[15]
Woytinsky (Social Security Board)	59.0	2.5	3.0	53.5	56.5	1% below 1940	2.0% per year	183.2[8]
Mayer (Brookings Institution)	60.8[9]	3.0	2.0	55.8	57.8	40	(.2 to 1.0%)[9]	156-170[9]
National Planning Association	61.5	1.5	2.5	57.5	60.0	40 (scheduled)	2.6% per year	206.5
Tucker (General Motors)	58.3	3.0	2.0	53.3	55.3	less than 1941	(.7)[10]	157.0
Johnson (J. Walter Thompson)	62.0	3.0	2.0	57.0	59.0	"normal"	2.3% per year	197.0
Fortune	60.4[11]	4.0[12]	2.5[13]	53.9	56.4	"prewar"	2.3% per year	187.0
Slichter (Harvard University)	N.A.	N.A.	N.A.	N.A.	57.0	7.5% less than in 1944	2.1% per year	187.0
Prince (General Electric)	60.5[14]	2.5	2.5	55.5	58.0	N.A.	1.3% per year[14]	174.9[14]

[1] All of the factors in the first five columns are taken from the estimates of the several analysts, except where specifically noted.

[2] The opinions of the individuals named are not necessarily those of the agencies and organizations.

[3] No reconciliation is made of the effect on the various 1950 GNP estimates of different assumptions on prevailing hours of work expected in that year. See item V under "Areas of Agreement," page 11.

[4] The rates are compounded annually. They were computed by (1) finding GNP per worker in 1950 by dividing total GNP in that year by total employment, (2) similarly finding GNP per worker in 1940 ($2,654 in 1943 prices, based on employment figure of 47.1 million), and (3) determining the rate of increase per year that would yield the indicated result. That is, the 1950 estimates of GNP imply in each case the annual average percentage increase in output per worker between 1940 and 1950 indicated by the figures in this column. These figures are roughly comparable because of the adjustment to a common starting year, which was not true of the corresponding column in table I. The spread is noticeably less in table II than in table I. In computing the average annual percentage increase in output per worker between 1940 and 1950 implied in the several estimates of GNP, no account has been taken of Government interest payments. Strictly, interest should be deducted from GNP in both 1940 and 1950 before computing the average "output" per worker in the two years. Some of the projections did not make separate computations of interest, preferring to make a "global" estimate of GNP based upon changes in the principal factors of size of the labor force, working hours per week, and productivity. Other projections did make separate calculations of interest. Therefore a consistent treatment of interest in deriving this column would involve a variation from the procedure actually employed by either the one group or the other. For ease of computation and by reasoning that all estimates must be regarded as rough approximations, no special adjustment for Federal interest was made in table II. If the totals are accepted as being sufficiently accurate to support minor adjustments, and Federal interest payments are therefore deducted from the GNP's of 1940 and 1950 before the rate of productivity increase is computed, the results would be as follows for the various estimates: Livingston, 2.2; Hagen & Kirkpatrick, 2.3; Mosak, 1.0; Woytinsky, 1.9; Mayer, 0.0 to 0.8 (but see footnote 9); N.P.A., 2.5; Tucker 0.5, (but see footnote 10); Johnson, 2.2; *Fortune*, 2.1; Slichter, 2.0; and Prince, 1.1. Federal interest payments amounted to about $1.1 billion in 1940 and for this purpose were estimated at about $5.0 billion for 1950. The general problem will be examined more fully in the discussion of productivity estimates to appear in a later article.

[5] In his paper before the American Statistical Association on December 28, 1944, Mr. Livingston estimated the 1950 labor force to lie in a range of from 60-61 millions. For the purpose of this article, Mr. Livingston has authorized the use of a figure of 60.4 as an average for the year. Similarly Mr. Hagen has orally adjusted his originally estimated 60 million labor force to 60.8 and his civilian employment of 56.0 to 56.8 in refining his original seasonal and secular allowances.

[6] Not separately computed. See text for reasoning.

[7] The authors divided national activity into homogeneous segments for the purpose of measuring their distinctive contributions to a total 1950 GNP. The significance of this division attaches principally to the progressive productivity question which will be discussed in a subsequent article. Their figures for hours per week: Group A, 40; Group B, "Will continue to decline 1941-1950 just as from 1923-1941."

[8] Dr. Woytinsky's 1950 GNP (full employment) was estimated as lying in a range from $182 billion to $190 billion in 1944 prices. In this table, for the sake of convenience, the middle point was arbitrarily taken and adjusted to 1943 prices.

[9] The Brookings estimate was for 1947, projected from 1943, and for the intervening period no allowance was made for either an increase or decrease in productivity. (See footnote 4, table I.) In conversation and correspondence with the author, Dr. Mayer fully recognized the possibility that by 1950 a full employment scale of operations might require or produce a GNP ranging anywhere from $156 billion to $170 billion, but emphasized that he had not made an estimate as to "what the output per man-hour will probably be in 1950." The following reasoning therefore is to be regarded as strictly hypothetical. After allowing for an approximate annual increase of 600,000 in the labor force from 1947 to 1950, the principal variable would be in the rate at which the normal upward trend in output per worker might reassert itself from 1947 to 1950. Dr. Mayer has informally suggested the use of a range of from 5 per cent to 15 per cent increase over the entire three-year period for the purpose of this table, with the qualification that such estimates imply that all the productivity increases are being absorbed in additional wages and profits and not in lowered prices to consumers.

[10] Dr. Tucker rejects GNP as a measure of output. He believes that output per worker, as measured by net income, can increase at the rate of 1.26 per cent per year between 1940 and 1950. (If the rate of increase had been computed on a GNP basis as in the case of the other analysts it would have come out at .7.)

[11] Adjusted for seasonal workers.

[12] In conversations with the author, Mr. J. K. Galbraith of the Board of Editors of *Fortune*, holds to the opinion that the 4 million unemployment figure assumed in *Fortune's* analysis of January 1944, for the year 1947 would still hold for 1950. This figure is higher than almost all of the other estimates. It was based originally although only in part upon a belief that the migration of large numbers of workers to war plants in different parts of the country would not quickly be modified to correspond with new regional patterns of production and job openings in the postwar period. This disinclination to re-trace steps or undertake new migrations is now assumed to persist through 1950. Many workers have become acclimated to their new homes, climates, environments, or society, and may cling to them even at the cost of prolonged dislocation. Likewise, the *Fortune* editors took cognizance of an irreducible labor float or frictional unemployment present in all of the other estimates.

[13] The figure actually used by the *Fortune* authors to represent probable membership in the Armed Forces was 3.5 million. However, that was for the year 1946. The present adjustment of all estimates to 1950 assumes that by that time the military contingent will have subsided to about the 2.5 million used by other analysts.

[14] Mr. Prince's estimate was for 1947, and the author has experimentally allowed for an average annual increase of 509,000 workers per year between 1947 and 1950 (following the Census estimate in Series P-44, No. 12). Both the size of the labor force in 1950 and of course the gross national product resulting in 1950 are increased by this arbitrary adjustment. Similarly, Mr. Prince's productivity figure from 1940 to 1950 was derived by extending to 1950 the rate of increase in output per worker that was necessary to bring his GNP up to $135 billion (in 1941 prices—see table I) by 1947.

[15] Mr. Mosak experimented with several approaches, which at the widest point yielded him a range from 190 to 220 billion dollars 1950 GNP in 1944 prices. This diversification avoided the appearance of pin-point accuracy to which of course no one actually pretended. Because of this tolerance, however, Mr. Mosak felt that minor adjustments would be meaningless, including even the adjustment to a common 1943 price level, so his originally suggested figure of $200 billion for this table has been left intact.

length of the work week in the dreamy hereafter, a guess as to what prices will be in the future as compared with the past, and above all a serious and hard fought difference of opinion over the rate at which output per worker will continue to increase in this country. These were the nodes of debate and the matters about which decisions were taken. GNP followed.

Even in this article, which purports to eliminate all but judgment factors, the author has felt it necessary to take two liberties with the available data to facilitate comparison. One is with respect to the post-war work week, the other concerns adjustments to a common price level where estimators used different base years in making their projections to 1950.

The problem of putting hours of work in 1950 on a comparable basis has not been disposed of. No adjustment has been made because of the absence of necessary particulars in some of the estimates, the difficulty of finding a common denominator, and the relative unimportance of the correction.

In the statistical business imps lurk everywhere. If full employment is to be achieved, a certain number of billions of dollars worth of production have to be achieved by a unanimous "yo heave." Some of the goals, however, are stated in terms of 1941 dollars, some in 1939 dollars, and still others in 1943 and 1944 dollars. It would look simple enough, knowing the price changes that took place as between these several years, to adjust them all to a single base. But no! Who said that we knew the extent of decline in the purchasing power of money from 1939 to 1944? As usual different people know different figures.

III. Approximate Amount of Increase over 1940 in National Physical Output Necessary to Full Employment in 1950

Source of Estimate	Percentage Increase in GNP, 1940-1950
Livingston (Department of Comerce)	55
Hagen & Kirkpatrick	58
Mosak (Office of Price Administration)	60
Woytinsky (Social Security Board)	48
Mayer (Brookings Institution)	25-36
National Planning Association	65
Tucker (General Motors)	26
Johnson (J. Walter Thompson)	59
Fortune	50
Slichter (Harvard University)	50
Prince (General Electric)	40

The extent of the physical increase in national activity in 1950 over 1940 necessary to full employment in the later year has been taken in this table as being represented by the percentage increases in the several 1950 GNPs over the actual 1940 GNP after adjustment to a common price level. Were it not for the want of precision in any arbitrary price level adjustment, these several percentage increases would represent the amount of increased production that would be contributed by 1950's larger labor force and the larger output per worker that the different estimates expect in that year.

Readers will still have no trouble in recalling the labor union protest over the use of the Cost of Living Index of the United States Bureau of Labor Statistics as a wage control yardstick. A Presidential Committee subsequently found that while the Bureau's technical methods were sound and careful, they

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MOTOR VESSEL "DOLOMITE" PASSING A MORGAN LINE FREIGHTER IN INTRA-COASTAL CANAL OF LOUISIANA—CUSHING PHOTO

CUSHING PHOTOGRAPH

THE origin, typical organization, kinds of projects studied, and factors entering into successful operation of Labor-Management Committees are discussed. Work is cited of outstanding committees. Accomplishments of the suggestion system are reported.

ARE LABOR-*Management* COMMITTEES WORTHWHILE?

A. CORNING WHITE

Organization Consultant,
Division of Budget Administration,
War Production Board

"SURE, Mr. Wilson, we know how the company is losing money from broken parts in the Transmitter Department," said a labor member of a Labor-Management Committee in a company manufacturing radio equipment to one of the management representatives during a meeting. "But that is not the half of it," he went on. "The slowdown in production resulting from the time each operator wastes hunting for parts, if you figure it on a monthly basis, amounts to considerable."

"But what to do about it," the management representative came back at him, "that is the question."

"The chairman has the answer in that suggestion from one of the men," the labor representative continued. "This operator says we should fix up these trucks we use to move the parts from the storeroom to the benches. He thinks if we put shelves and compartments on the trucks, all the different parts could be kept separate. That way the operators at the benches wouldn't waste so much time handling six parts to find one. And the company wouldn't suffer this loss from the parts getting nicked in handling."

"What do the rest of you think?" the chairman inquired.

After further discussion, the four

WHAT ARE THE LABOR-MANAGEMENT COMMITTEES?

The dominant purpose behind all Labor-Management Committees is expressed in this summary as well as the reason which impelled the War Production Board to sponsor their organization. It also outlines the manner in which such committees are organized and the wide range of activities which they undertake.

What Is Their Purpose?

Labor-Management Committees which since the War Production Board initiated the War Production Drive early in 1942 have been organized in more than 5,100 plants, representing more than 8,000,000 workers, have as their sole purpose increased production. The nature of the War Production Drive which fosters the organization of Labor-Management Committees is concisely defined by former War Production Board Chairman Donald Nelson as follows:

"This drive is designed to increase the production of weapons now and not to further the special interests of any group. It is not a plan to promote company unions. It is not a device to add to or tear down the power or position of any union. It does not interfere with bargaining machinery where it exists or undertake the functions of such machinery. It is not designed to conform to any plan that contemplates a measure of control of management by labor. It does not put management in labor or labor in management. It is not a management plan, a labor plan, or any other plan. It is the War Production Drive Plan. It is a perfectly simple, straightforward effort to increase production."

What Prompted Their Organization?

On Feb. 27, 1942, the late President Roosevelt asked Donald Nelson to "Bring home to labor and management alike the supreme importance of war production." The WPB immediately inaugurated a program to stimulate the formation of Labor-Management Production Committees in war plants throughout the United States. For this purpose it set up a central office known as War Production Drive Headquarters.

WPB likewise sponsored meetings in 16 of the country's largest cities at which prominent employers and labor leaders discussed ways of forming production committees. Mr. Nelson himself wrote to about 1,500 prime contractors, and during the next two years over 30,000 additional letters were sent to employers.

How Are They Organized?

A plant committee usually consists of six to eight members, half representing management and half labor. Management appoints its representatives, and labor picks the labor members. It is considered desirable to have the plant's top management men on the committee so that decisions can be made promptly and with sufficient authority to have them carried out. Similarly, committees usually include one or more top labor officials to avoid conflict with union policy.

Most committees accomplish a great deal of their work through sub-committees on such special subjects as absenteeism, safety and health, recruitment of manpower, plant efficiency, salvage and conservation, production suggestions, and so on. Large plants also have department sub-committees working on ways to improve production in their respective departments.

Are They All Patterned Alike?

The Labor-Management Committees are not patterned after a precise blueprint; the various local committees endeavor to fit the War Production Drive to their own peculiar needs. These needs are different in every single plant, just as there are different numbers of men employed, different products shipped, and different problems involved on each production line.

What Activities Are Undertaken?

Many of the Labor-Management Committees have manifold activities. Such programs include poster sub-committees, bulletin board committees, and sub-committees on bond sales, blood donations, salvage, conservation of tools and care of machines, suggestion and award systems, car pooling and tire rationing, attendance at work, health and safety, breaking bottlenecks, training new men and women workers, and on many other things which help to improve work, further production, save time and materials, and to make working conditions more pleasant.

What Are Their Tools?

Labor-Management Committees use numerous means to promote their activities, these including: awards (war bonds, cash, vacation trips, emblems, pins, and certificates); production scoreboards; plant publications; posters and banners; pay envelop enclosures; home mailing pieces; pledge cards and pins; display and information booths; slogans and songs; sound systems; rallies; parades; Army-Navy "E" ceremonies; speeches by war heroes; and displays of fighting equipment.

management and the four labor members of the committee unanimously agreed that the suggestion was worth trying. They thought it best to experiment with one remodelled truck. If an analysis showed a reduction in damaged parts and an increase in a single operator's production, all the trucks could be remodelled and the saving in dollars estimated on an annual basis. In accordance with the plant's policy, the operator submitting this accepted suggestion would get 10 per cent of the estimated annual dollar saving to the company.

This incident actually occurred at a Labor-Management Committee meeting in a New England plant. I've quoted it, not because it is typical, but because it suggests the atmosphere in which a *successful* Labor-Management Committee operates. For many Labor-Management Committees are *not* successful. Why they are not, while others are, it is my purpose to outline in this article. First, though, it may be well to sketch briefly the background of the Labor-Management movement.

Just prior to World War I, the idea of encouraging cooperation between labor and management through more formal organization with a view to increasing production and cutting costs created some interest in Great Britain. Several companies tried it and some continued with it. But the movement achieved only a miniscule growth prior to the early 1920's. It was then that he movement started in America. The Baltimore and Ohio Railroad, the Canadian National Railways, and still later, certain American plants tried to work cooperatively with officials of such unions as the Amalgamated Clothing Workers, the International Association of Machinists, the American Federation of Hosiery Workers, and the Printing Pressmen's Union.

In the middle and late 1930's Westinghouse and a few other large manufacturing concerns adopted the plan and achieved some success with it. But such "machinery" for more formalized cooperation of management and labor for increasing and improving production gained no real impetus in the United States prior to the early Spring of 1942 when, implementing a suggestion in a letter Mr. Roosevelt wrote him on February 27, Donald Nelson, War Production Board Chairman, in a series of radio talks, urged companies engaged in war work to pool the best ideas of both their labor and their management for speeding up production. The vehicle Mr. Nelson suggested was a Labor-Management Committee to be set up in each manufacturing plant.

War Production Drive Set Up

Mr. Nelson set up in the War Production Board a unit under the name of War Production Drive to assist companies in the organization and operation of such committees. This organization, at first merely a "mail-order operation" in the Division of Information, after a year attained independent status, and now, in addition to its Washington personnel, has a small field staff strategically distributed throughout the country, to give whatever personal assistance its members can to interested companies. Unfortunately, the small size of this staff enables it to render only limited personal assistance to industry in organizing and operating Labor-Management Committees.

The policy of the War Production Drive under the able leadership of W. F. Todd, the present director, is to concentrate the efforts of this field staff on companies which have critical war contracts and are most in need of help. The War Production Drive Division, however, has prepared a series of pamphlets offering many practical suggestions regarding the organization and operation of Labor-Management Committees which are available to any interested management or labor group on request.

Partly stimulated by the urgings of Mr. Nelson when he was Chairman of the War Production Board, partly out of willingness to try once any idea which held some promise of minimizing labor trouble and increasing production, but mainly through the promotional efforts of the War Production Drive Division, 5,081 plants have to date registered in Washington as having installed Labor-Management Committees. Although it is possible that a few plants having set up Committees may not be registered, their number is negligible. But not all of the more than five thousand plants which have reported as having organized Labor-Management groups, actually have these Committees operating.

Of the first 1,000 registered plants recently replying to a questionnaire sent out by the War Production Drive, 16 per cent reported that their Committees had ceased to function. And of those actually functioning, it is my opinion that perhaps 25 per cent are doing an excellent job, 50 per cent from good to fair, and 25 per cent are probably totally ineffective. This is only my own estimate, but it is based on conversations with plant management, labor leaders, and the officials of the War Production Drive.

For many plants which established Committees did so only as a gesture. In certain cases the management lacked any real interest; in others labor was only lukewarm. In others, while both management and labor may have had good intentions, either one or both of them, lacked the technical "know-how" to make their Committees function. And the War Production Drive field staff have more than they can handle

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PHOTOGRAPH COURTESY WPB WAR PRODUCTION DRIVE DIVISION

Plant Efficiency Committee members, Mill Division, inspect an improvement at the Bridgeport Brass Company, Bridgeport, Conn. Left to right, first row, are: Harvey De Lorme, Phillip Volmer, E. Treat Beard, George Cowles; second row, Anthony Capasso, Eric Speiser, John Kiernan, Albert Eli, John Gunther, Guy Richardson, George Hubbell, and Horace Denton; third row, William Grant, William Booth, Stanley Ginsolowski, Neal Beach, Jules Miller, Fred Reading, and Frank Selling; fourth row, Curtis Peaseley, Charles Fray, Henry Hylen, and James Brennan.

THE TREND OF BUSINESS

SUMMARY: Manufacturing points upward despite minor divergencies. Industry continues to face shortages of skilled labor and raw materials. Consumer spending slackens slightly but volume remains high. Commodity prices edge up to new war peaks. Business failures remain low.

THE movement upward in industrial production in the first quarter of this year tapered off in early April. Nevertheless output continues high; for April early fragmentary data indicates that it was slightly below a year earlier, approximately 25 per cent above April 1942, and about two and one-half times the April 1939 level.

While production of some civilian merchandise continued low compared with the current heavy demand, overall volume of shipments of civilian goods in the first quarter was maintained in 1945 at about the same high level as in 1944. Sales of non-durable goods to the civilian trade was only slightly below the first three months of peak 1942 and about 5 per cent more than in 1939. In contrast durable goods shipments during the war period have been far below pre-war levels (U. S. Department of Commerce).

While shipments of food and related products to civilians in the first quarter of this year declined about 4 per cent below the same period last year, chiefly because of a drop in the meat packing industry, deliveries were approximately 8 per cent over the 1939 level. Shipments of non-war textile products and apparel in the first three months of 1945 were almost unchanged from a year earlier; deliveries during the last two years have been moderately below 1939.

Although manufacturers of leather and allied products shipped about 10 per cent less goods this year than in the first quarter of 1942, the volume was close to the level of either 1944 or 1939.

Cancellations of war contracts have had little effect on total output to date; while totalling many millions they are small in comparison with total production. Although steel cancellations in April were heavier than previously, they were mostly in small tonnage. Steel new order volume was at a high level in April and remained well above shipments. Pressure was heavy for landing mats, sheets, alloy sheets, and bars. Steel ingot output continued high in April, close to the near record level of the previous month and about 3 per cent below a year ago.

With a further gain in war output, over-all industry continues to face skilled labor shortages and inadequate supplies of some raw materials. While some cutbacks are scheduled in the production of small arms and rifle and machine-gun ammunition, other types of ammunition continue to be heavily produced. Plane output in March was 3 per cent above schedule and 12 per cent above the previous month. The 126 ships delivered in March brought the total number for the first three months of 1945 to 371. Zinc shipments increased 14 per cent during March and were 12 per cent over a year earlier; as a result, inventories were reduced about 12 per cent in March. Deliveries of copper in the same period rose considerably—27 per cent—and stocks declined about 9 per cent.

Production of some non-durable goods continued high; plants devoted to the fulfilling of Government contracts are best equipped with skilled workers and raw material to operate at a high rate. Output of cotton, spun rayon, and mixed fiber yarns has increased only slightly over the past several months. Cotton consumed in

Industrial Production

Seasonally Adjusted Index; 1935-1939 = 100; Federal Reserve Board

	1942	1943	1944	1945
January	181	227	243	234
February	183	232	244	236
March	186	235	241	236
April	186	237	239	
May	191	239	236	
June	193	237	235	
July	197	240	230	
August	204	242	232	
September	208	244	230	
October	215	247	232	
November	220	247	232	
December	223	241	232	

Cost of Living

Index; 1935-1939 = 100; U S. Bureau of Labor Statistics

	1942	1943	1944	1945
January	112.0	120.7	124.2	127.1
February	112.9	121.0	123.8	126.8
March	114.3	122.8	123.8	127.0*
April	115.1	124.1	124.6	
May	116.0	125.1	125.1	
June	116.4	124.8	125.4	
July	117.0	123.9	126.1	
August	117.5	123.4	126.4	
September	117.8	123.9	126.5	
October	119.0	124.4	126.5	
November	119.8	124.2	126.6	
December	120.4	124.4	127.0	

Wholesale Commodity Prices

Index; 1926 = 100, U S. Bureau of Labor Statistics

	1942	1943	1944	1945
January	96.0	101.9	103.3	104.9
February	96.7	102.5	103.6	105.2
March	97.6	103.4	103.8	105.4
April	98.7	103.6	103.9	
May	98.8	104.1	104.0	
June	98.6	103.8	104.3	
July	98.7	103.2	104.1	
August	99.2	103.1	103.9	
September	99.6	103.1	104.0	
October	100.0	103.0	104.1	
November	100.3	102.9	104.4	
December	101.0	103.2	104.7	

Employment

Millions of Persons; U S. Bureau of Census

	1942	1943	1944	1945
January	49.1	51.4	50.4	50.1
February	49.6	51.2	50.3	50.6
March	50.2	51.2	50.5	50.8
April	51.1	51.6	51.3	
May	52.0	52.6	52.1	
June	53.7	54.0	53.2	
July	54.3	54.8	54.0	
August	54.4	54.4	53.2	
September	52.9	53.0	52.3	
October	53.2	52.2	52.2	
November	52.6	51.7	51.5	
December	52.2	51.0	50.6	

Retail Sales

Seasonally Adjusted Index; 1935-1939 = 100; U S. Dept. of Com.

	1942	1943	1944	1945
January	153.2	159.5	170.1	193.9
February	148.3	170.4	172.8	195.4
March	147.6	170.2	177.6	198.0*
April	146.0	160.1	169.9	
May	144.4	156.5	175.5	
June	141.8	164.5	175.0	
July	147.6	165.1	178.7	
August	150.3	167.7	178.5	
September	150.9	166.5	177.4	
October	154.3	168.3	183.6	
November	158.2	172.5	191.5	
December	153.9	171.4	187.9	

Industrial Stock Prices

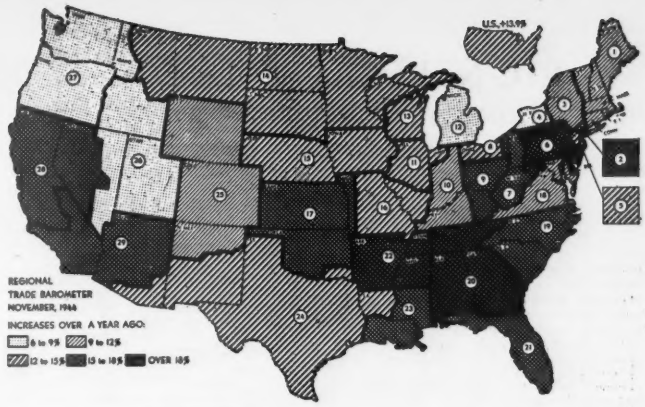
Monthly Average of Daily Index, Dow-Jones

	1942	1943	1944	1945
January	111.1	121.52	137.74	153.95
February	107.28	127.40	135.97	157.13
March	101.62	131.15	137.00	157.22
April	97.79	134.36	137.19	
May	98.42	138.60	139.22	
June	103.75	141.25	145.46	
July	106.04	142.90	148.37	
August	106.88	136.34	146.72	
September	107.41	138.90	145.20	
October	113.51	138.25	147.68	
November	115.31	132.66	146.88	
December	117.16	134.57	150.35	

* Approximation, figure from quoted source not available.

REGIONAL TRADE REPORTS

The DUN'S REVIEW Trade Barometers (1935-1939 = 100) are compiled under the supervision of Dr. L. D. H. Weld. In this summary seasonally adjusted figures are used. Regional information is gathered through local DUN & BRADSTREET offices. Payroll and employment figures are from Government sources. More detailed data are available in DUN'S STATISTICAL REVIEW. Barometer figures may be obtained in advance of publication.



Feb. 1945	% Change from Jan. '45	% Change from Feb. '44	HIGHLIGHTS OF TRADE ACTIVITY
UNITED STATES 201.4	+ 3.8	+11.2	Monthly increases in all regions but North and South Carolina, Region (19). All barometers increased over February 1944.
1. NEW ENGLAND 163.9	+ 6.4	+ 3.8	Cotton spindle activity has fallen moderately below 1944. Monthly employment increases in Fitchburg, Lowell, Lynn, Waltham.
2. NEW YORK CITY 188.2	+ 6.0	+16.2	New York employment 8% below 1944; payrolls up 2% in Bridgeport and 1% in New York; contraseasonal declines in apparel industry.
3. ALBANY, UTICA, SYRACUSE 180.6	+ 9.9	+ 9.6	Only monthly employment rise in Albany–Schenectady–Troy, employment 16% below 1944, payrolls down 11%; similar declines in Binghamton–Endicott–Johnson City area; Utica payrolls 28% below 1944.
4. BUFFALO, ROCHESTER 186.3	+10.8	+ 2.7	Further reduction in aircraft industry, Buffalo employment now 13% below 1944, payrolls down 9%. Rochester employment decline from 1944 only 3%; payrolls even. Index is 8% below U. S. average.
5. NORTHERN NEW JERSEY 162.9	+ 9.1	+ 9.8	Lowest barometer in country. Farm prices 3% above February 1944. Newark industrial employment about 8% below 1944, Elizabeth down 3% with moderate increases maintained in payrolls.
6. PHILADELPHIA 182.1	+ 2.3	+12.6	Employment increases over 1944 in Altoona, Chambersburg, Pottsville, Scranton, Wilkes-Barre, York–Adams.
7. PITTSBURGH 166.9	+ 3.8	+12.9	Pittsburgh business activity about 2% above 1944 compared with 4% decline for State. Steel mills operating at 92% of capacity.
8. CLEVELAND 208.5	+10.7	+ 9.4	Cleveland carloading 4% below 1944. War production high and employment has declined only slightly below 1944 in most cities.
9. CINCINNATI, COLUMBUS 209.1	+11.7	+12.0	Business conditions steady in past few months. Dayton and Columbus employment and payrolls moderately below 1944. Region's barometer level again compares favorably with U. S.
10. INDIANAPOLIS, LOUISVILLE 233.8	+ 5.7	+15.5	Livestock marketings about 30% less than in 1944. State industrial employment and payrolls down 1% in month, sharpest declines in Lawrenceburg, New Albany, New Castle.
11. CHICAGO 195.3	+ 7.6	+11.5	Index rose and now is 3% below national level. Little change in industrial employment and payrolls in recent months.
12. DETROIT 219.1	+ 7.6	+ 9.1	Barometer rose to highest level above U. S. since last October. Industrial employment and payrolls declined slightly in recent months.
13. MILWAUKEE 216.6	+ 4.6	+17.2	Payrolls more than 10% above 1944 in Appleton, Sheboygan, Wisconsin Rapids. Wisconsin industrial employment about 4% below 1944.
14. MINNEAPOLIS, ST. PAUL 195.0	+ 8.5	+ 8.9	Farm prices at last year's level; farm income holds to peak. Wholesale trade moderately above a year ago. Index is only 3% below national figure. Payrolls firm in district.
15. IOWA, NEBRASKA 198.8	+ 4.5	+ 7.9	Crop acreage expected about 2% above 1944 plantings. Omaha livestock received and slaughtered continued about 25% below 1944. Iowa farm prices unchanged in recent months but 2% below 1944.
16. St. LOUIS 196.8	+ 3.5	+12.6	Labor shortages more acute than in recent months. Barometer yearly increase above average for first time in over 6 months.
17. KANSAS CITY 221.6	+ 2.5	+15.2	Cattle slaughter moderately above 1944. Oklahoma farm prices close to last year. Flour milling at high level, but below 1944.
18. MARYLAND, VIRGINIA 230.7	+10.6	+ 9.4	Employment has increased in recent months but is still slightly below last year; payrolls below 1944. Cotton textile output steady in past several months but below last year.
19. NORTH, SOUTH CAROLINA 214.5	— 3.2	+12.9	Barometer dropped from 14 to 7% above U. S. level. Weather favorable for truck crops and progress satisfactory. Shipyards in Wilmington area working 6-day week omitting part of third shift.
20. ATLANTA, BIRMINGHAM 260.1	+ 3.9	+17.2	Barometer 29% above U. S. level. Additional oil wells brought into operation; output about 25% above 1944. Industrial employment below 1944. Nashville business moderately over 1944.
21. FLORIDA 223.4	+ 0.9	+ 1.3	Shipyard workers in Jacksonville reduced; industrial employment moderately below a year ago in Miami, Jacksonville, and Tampa.
22. MEMPHIS 223.3	+ 1.6	+11.4	Mississippi cotton acreage estimated 11% below last year. Memphis industrial employment about 10% below a year ago.
23. NEW ORLEANS 232.1	+ 3.5	+ 5.0	Louisiana freight carloadings about 5% above 1944. New Orleans industrial employment and payrolls steady to slightly above 1944.
24. TEXAS 255.1	+11.3	+13.4	Texas manufacturing employment close to 1944 level; payrolls still moderately over 1944. Crops making satisfactory progress and moisture adequate. Barometer rose to 27% above national level.
25. DENVER 189.4	+ 1.8	+11.9	New Mexico manufacturing employment unchanged in recent months and steady with 1944. Colorado carload receipts of cattle 6% below 1944.
26. SALT LAKE CITY 215.8	+ 1.1	+ 5.7	Agricultural prospects indicate output will equal 1944 or be slightly greater. Salt Lake City employment moderately over 1944.
27. PORTLAND, SEATTLE 269.8	+ 8.9	+10.3	Highest barometer in country. Puget Sound business activity at peak levels. New Yakima plant to employ about 2,800 men. Employment in shipyards reduced. Unfilled lumber orders remain high.
28. SAN FRANCISCO 228.2	+ 8.2	+13.3	Fruit crop ended favorable with prices high. San Francisco industrial employment and payrolls 15 and 13% respectively below 1944.
29. LOS ANGELES 225.4	+ 6.1	+13.9	Agricultural outlook good. Output of truck crops below 1944. Los Angeles manufacturing employment 16% below 1944, payrolls down 11%.

March increased about 10 per cent over a year ago. Shoe production, although below the heavy demand, is at a good level. Manufacturers of Summer clothing, particularly men's, report that volume has declined because of the difficulty of obtaining raw materials from mills. Pulp and paper for civilian use have been further curtailed; inventories continue to dwindle and are well below a year ago. Total paperboard output, however, is about 9 per cent over a year ago.

Inventories—Over-all manufacturers' inventories have continued their steady decline and at the end of March were estimated about 10 per cent below a year earlier. The downward movement over the past thirteen months was most prevalent in durable goods industries.

The total business stocks at the conclusion of March were virtually unchanged. Wholesalers' inventories remained generally steady while those of retailers increased seasonally. Inventories in many lines were below a year ago and low in relation to the current heavy demand.

Employment—With production at such a high level, total non-agricultural employment, as might be expected, follows the same pattern. Factory employment in March was below previous periods and 7 per cent below a year ago, despite the continuance of efforts to channel workers into critical goods industries. Shortage of skilled labor remains a deterrent in the volume of production; most essential war industries report the need for workers. With war demands being stepped up in some lines the shortage of labor is more acute—chiefly in some metal, lumber, textile, paint, and food industries.

SIGNIFICANT INDICATORS

COMPILED BY THE PUBLISHERS OF "DUN'S REVIEW"

More detailed figures appear in DUN'S STATISTICAL REVIEW.

THE FAILURE RECORD

	Mar. 1945	Feb. 1945	Mar. 1944	Per Cent Change†
DUN'S INSOLVENCY INDEX*				
Unadjusted	5.0	4.8	6.3	— 21
Adjusted, seasonally	4.7	4.1	6.1	— 23
NUMBER OF FAILURES	85	66	96	— 11
NUMBER BY SIZE OF DEBT				
Under $5,000	34	25	33	+ 3
$5,000-$25,000	33	30	47	— 30
$25,000-$100,000	11	8	13	— 15
$100,000 and over	7	3	3	+133
NUMBER BY INDUSTRY GROUPS				
Manufacturing	26	17	28	— 7
Wholesale Trade	7	4	5	+ 40
Retail Trade	37	26	43	— 14
Construction	10	8	11	— 9
Commercial Service	5	11	9	— 44
(Liabilities in thousands)				
CURRENT LIABILITIES	$3,880	$1,557	$1,460	+166
TOTAL LIABILITIES	$3,880	$1,657	$1,460	+166

* Apparent annual failures per 10,000 enterprises.
† Per cent change of March 1945 over March 1944.

FAILURES BY DIVISIONS OF INDUSTRY

(Current liabilities in thousands of dollars)	Number Jan.-Mar. 1945	Number Jan.-Mar. 1944	Liabilities Jan.-Mar. 1945	Liabilities Jan.-Mar. 1944
MINING, MANUFACTURING	77	91	5,496	3,726
Mining—Coal, Oil, Misc.	8	2	1,256	1,010
Food and Kindred Products	3	6	163	71
Textile Products, Apparel	6	9	62	293
Lumber, Lumber Products	10	14	944	587
Paper, Printing, Publishing	4	8	305	109
Chemicals, Allied Products	5	5	25	231
Leather, Leather Products	1	1	14	10
Stone, Clay, Glass Products	2	3	103	115
Iron, Steel, and Products	11	4	412	67
Machinery	6	25	244	853
Transportation Equipment	9	2	633	200
Miscellaneous	12	12	1,315	180
WHOLESALE TRADE	13	28	248	398
Food and Farm Products	4	15	158	172
Apparel	1	1	22	5
Lumber, Bldg. Mats, Hdwr.	1	4	26	154
Miscellaneous	7	8	42	67
RETAIL TRADE	89	142	805	998
Food and Liquor	12	36	82	328
General Merchandise	6	4	38	13
Apparel and Accessories	10	16	113	70
Furniture, Furnishings	2	4	10	31
Lumber, Bldg. Mats, Hdwr.	4	6	30	42
Automotive Group	11	7	49	55
Eating, Drinking Places	28	47	325	336
Drug Stores	7	6	73	38
Miscellaneous	9	16	85	85
CONSTRUCTION	28	43	1,271	507
COMMERCIAL SERVICE	24	44	3,500	647
Highway Transportation	8	13	2,838	394
Misc. Public Services	1	..	66	..
Hotels	1	..	461	..
Laundries, Cleaning, Dyeing	3	6	56	95
Other Personal Services	3	15	16	85
Business, Repair Service	8	10	63	73

FURTHER INFORMATION

DUE TO war-time restriction on use of paper and the desire to conserve as much space as possible, the features appearing on this page are necessarily given in very abbreviated form.

MORE DETAILED data on the various subjects are published each month in DUN'S STATISTICAL REVIEW. For example, building permit values for each of the 215 cities are given, with a breakdown by geographical regions. (A ten-year record of building permit values for 215 cities is available upon request.) With the bank clearing data there is also comparative data for the three preceding years, for the preceding month, and cumulative data for the year.

FAILURE STATISTICS are presented by States, by large cities, by Federal Reserve Districts, by industries and trades and by size of liabilities. Canadian failure statistics by Provinces are included.

THE WHOLESALE price indexes are presented for a much longer period of time. There is also a summarized presentation of other wholesale price index numbers, both United States and foreign. . . . The annual subscription to DUN'S STATISTICAL REVIEW is $1 a year.

WHOLESALE FOOD PRICE INDEX

The index is the sum of the wholesale price per pound of 31 commodities in general use:

1945	1944	1945	
Apr. 24..$4.10	Apr. 25..$4.02	High	$4.11 Feb. 13
Apr. 17.. 4.11	Apr. 18.. 4.03	Low	4.09 Jan. 2
Apr. 10.. 4.10	Apr. 11.. 4.04	1944	
Apr. 3.. 4.10	Apr. 4.. 4.03	High	$4.09 Dec. 12
Mar. 27.. 4.10	Mar. 28.. 4.03	Low	3.98 May 23

DAILY WHOLESALE PRICE INDEX

The index is prepared from spot closing prices of 30 basic commodities. (1930-1932 = 100.)

•	1945 Apr.	1945 Mar.	1945 Feb.	1945 Jan.	1944 Dec.
1	†	176.37	175.12	*	173.19
2	176.53	176.31	175.23	175.16	173.26
3	176.63	176.33	174.97	175.35	†
4	176.75	†	†	175.33	172.98
5	176.93	176.46	175.42	175.38	173.17
6	176.92	176.49	175.33	175.42	173.81
7	176.90	176.50	175.36	†	173.92
8	†	176.30	175.22	175.66	173.77
9	176.38	176.29	175.26	175.44	173.87
10	176.47	176.32	175.31	175.64	†
11	176.46	†	†	175.63	174.23
12	176.59	176.34	*	175.56	173.99
13	176.58	176.46	175.50	175.60	173.80
14	*	176.48	176.11	†	174.12
15	†	176.43	176.07	175.47	174.46
16	176.54	176.40	176.10	175.57	174.45
17	176.63	176.44	176.01	174.88	†
18	176.64	†	†	175.50	174.69
19	176.55	176.48	176.08	175.49	174.61
20	176.49	176.48	176.11	175.37	174.59
21	176.30	176.54	176.19	†	174.96
22	†	176.62	*	175.43	174.60
23	176.54	176.60	176.15	175.39	174.61
24	176.67	176.53	176.14	175.08	†
25	176.96	†	†	175.23	*
26	176.99	176.48	176.27	175.18	174.92
27	176.92	176.38	176.28	175.06	174.82
28	176.93	176.41	176.32	†	174.93
29	†	176.36		175.28	175.02
30	176.89	*		175.22	175.10
31		176.41		175.37	†

BUILDING PERMIT VALUES—215 CITIES

Geographical Divisions:	March 1945	March 1944	% Change
New England	$1,886,349	$1,602,271	+ 17.7
Middle Atlantic	23,232,652	10,239,917	+126.9
South Atlantic	5,165,101	4,848,084	+ 6.5
East Central	9,796,050	12,080,476	— 18.9
South Central	10,745,009	29,771,390	— 63.9
West Central	2,843,363	2,046,213	+ 39.0
Mountain	2,432,904	1,211,831	+100.8
Pacific	10,500,799	14,026,470	— 25.1
Total U. S.	$66,602,227	$75,826,652	— 12.1
New York City	$18,729,556	$7,868,953	+138.0
Outside N. Y. C.	$47,872,671	$67,957,699	— 29.5

BANK CLEARINGS—INDIVIDUAL CITIES

(Thousands of dollars)

	March 1945	March 1944	% Change
Boston	1,650,106	1,539,202	+ 7.2
Philadelphia	3,073,000	2,939,000	+ 4.6
Buffalo	296,992	303,439	— 2.1
Pittsburgh	1,219,141	1,168,093	+ 4.4
Cleveland	1,018,523	943,400	+ 8.0
Cincinnati	546,095	511,635	+ 6.7
Baltimore	714,846	684,872	+ 4.4
Richmond	366,813	339,595	+ 8.0
Atlanta	723,613	648,900	+11.5
New Orleans	395,887	399,455	— 0.9
Chicago	2,332,886	2,198,580	+ 6.1
Detroit	1,638,820	1,724,983	— 5.0
St. Louis	881,913	812,326	+ 8.6
Louisville	345,127	319,024	+ 8.2
Minneapolis	621,962	638,272	— 2.6
Kansas City	941,506	877,797	+ 7.3
Omaha	358,529	362,555	— 1.1
Denver	284,916	263,356	+ 8.2
Dallas	575,724	507,456	+13.5
Houston	538,955	439,106	+22.7
San Francisco	1,396,821	1,230,747	+13.5
Portland, Ore.	343,384	317,481	+ 8.2
Seattle	397,005	379,102	+ 4.7
Total 23 Cities	20,662,564	19,548,376	+ 5.7
New York	27,699,557	25,115,886	+10.3
Total 24 Cities	48,362,121	44,664,262	+ 8.3
Daily Average	1,791,190	1,654,232	+ 8.3

Employment in steel industries in March was close to the previous month's high level. In non-durable goods the number of workers in the chemical industries increased the most; food manufacturers and textile mills reported moderate declines.

Reflecting the steady movement of workers toward heavy industries, farm employment on April 1 was slightly below a year ago. Although the seasonal upturn was not as great as usual the number of workers on farms increased about 7 per cent during March. The month's gains were largest in the South Atlantic, West South Central, East North Central, and Middle Atlantic regions.

Income—While the recent gradual expansion in industrial output has not been similarly met with a corresponding gain in total factory payrolls, earnings in most lines continue at a very high level. The trend in industrial payrolls has been irregularly downward since November 1943 and in March they were slightly below last year. Wage income, however, is high and is more than double what it was in March 1941.

Income from farm marketings in March was about 3 per cent below a year earlier. While total receipts were 3 per cent above those for February, income from crops declined about 5 per cent in the same comparison. Farm income, after following the gains in factory wages from 1939 to 1943 with some hesitation and levelling off in 1943, took the same path downward as industrial wages since February 1944.

Income payments to individuals in February, at $12,739,000,000, were 5 per cent below a month earlier; the decline was less than usual for this period. The February level is 4 per cent over a year ago and 19 per cent above February 1943.

Prices—Commodity prices in the first part of April followed the steady pace set in March when the Bureau of Labor Statistics' index stood at 105.1 for four consecutive weeks. In the second week of April prices rose 0.4 per cent to 105.5 per cent of the 1926 average, a new war-time peak. While the price level has increased some from the 97.9 of April 1944, there have been no recent dramatic jumps. Higher costs of agricultural commodities and the raising of newsprint ceiling prices accounted for the increase.

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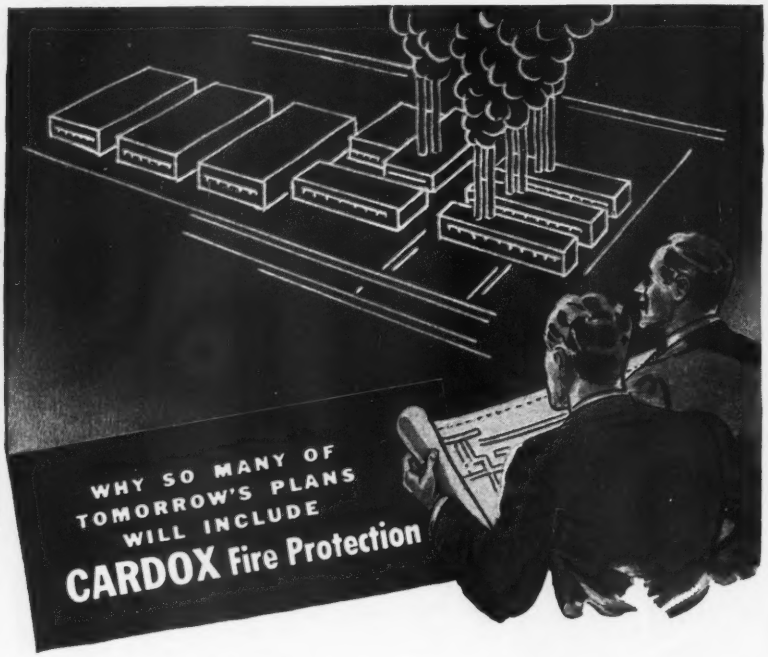

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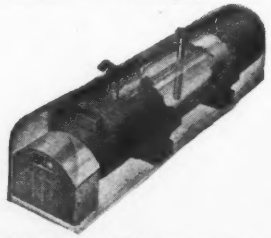

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CARDOX
CO_2 FIRE EXTINGUISHING SYSTEMS

The cost of living remained practically unchanged during March at about the level reached last December. Minor changes in many retail prices were responsible for the slight increase over the previous month.

Trade—While consumer spending was below pre-Easter levels, volume in April remained high and was estimated from 5 to 10 per cent above a year ago. All lines of business reported a moderate expansion with special emphasis on Spring and Summer goods. There was an appreciable rise in demand for home furnishings and furniture, but volume was only slightly above last year as limited assortments hindered a heavy turnover. Scarcities were evident in a growing number of retail lines and were chiefly responsible for a decline in volume of infants' wear, men's furnishings, and some foods during the last few months.

Wholesale volume was maintained but shortages in many soft lines remain acute. Buyers continued to visit markets to fill in stocks and to press for orders. In most lines replacements were very difficult to obtain. Wholesale volume in April compared favorably with that of a year ago; in many lines it was estimated to be from 2 to 5 per cent above a year ago.

Finance—Stock prices in the early part of April continued the sharp downward movement that prevailed throughout the previous month; volume dropped to a six-months' low in the first week of April. As the month progressed a mild recovery was apparent and prices and volume improved; prices reached new bull market highs in the latter part of the month.

In mid-April excess reserves of all Federal Reserve member banks dropped to $800,000,000, the lowest figure since October 1944; the decrease of $100,000,000 from the end of March was attributed chiefly to the rise in currency in circulation and a further decline of $23,000,000 in the country's gold stock. Money in circulation attained a new peak of $26,068,000. Member bank holdings of United States Government securities rose $637,000,000 from March 28 to a record high of $20,153,000,000 on the third Wednesday of April. In the same period the Federal Reserve ratio (total reserves to deposit and Federal Reserve note liabilities) dropped to the lowest level since 1920—to 47.3 per cent from 48.4 per cent. A year earlier, on April 19, 1944, it was 60.0 per cent.

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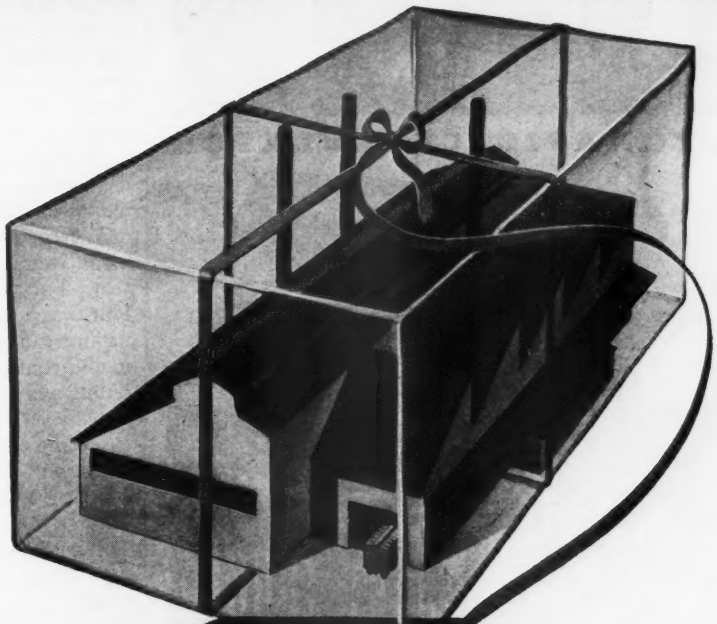

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Failures—After February's record and unseasonable low, business failures turned up to 85 in March. Despite this increase, concerns failing were fewer in number than in any previous March. DUN's Insolvency Index, indicating the annual rate of failures per 10,000 concerns in business, rose to 4.7, the highest rate so far in 1945 although the lowest for any March on record.

Aggregate liabilities, on the other hand, were twice those of March last year. For the first time in more than four years small failures—involving liabilities under $5,000—exceeded those in the comparable month of the preceding year. More important, exceptionally large failures—with liabilities exceeding $100,000 each—were more numerous than in any month since March two years ago. Medium-sized failures continued to decline but at a slower rate than in the recent past.

A slight decline from the same month of 1944 appeared in all trade and industry groups except wholesale trade. Manufacturers and retailers accounted for three-fourths of the number of failures in March and for nine-tenths of the month's liabilities. Restaurants were the only line in any industry or trade in which there were more than 10 failures.

In no major industry group were there in the first quarter of the year as many failures this year as last. In three groups, however, the liabilities involved were greater—in manufacturing, by about 50 per cent; in construction, by about 150 per cent; and in commercial service, by about 440 per cent.

In the manufacturing group the number of failures in the mining, iron and steel, and transportation equipment industries increased in January-March this year over the same period a year ago. In machinery, manufacturing failures dropped sharply, breaking a year long upward trend and numbering only 6 as compared with 25 in the same quarter of last year. Among retailers, an upturn in number of failures occurred in the drug and automotive lines, while failures in the food trade fell to one-third the number in the corresponding three months of 1944.

Despite the fact that in the first quarter of 1945 the number of failures exceeded those in the same period of 1944, in only a few lines, the liabilities of failed concerns were heavier in a number of lines. In manufacturing, for instance, for eight of the twelve industries covered, failure liabilities in the

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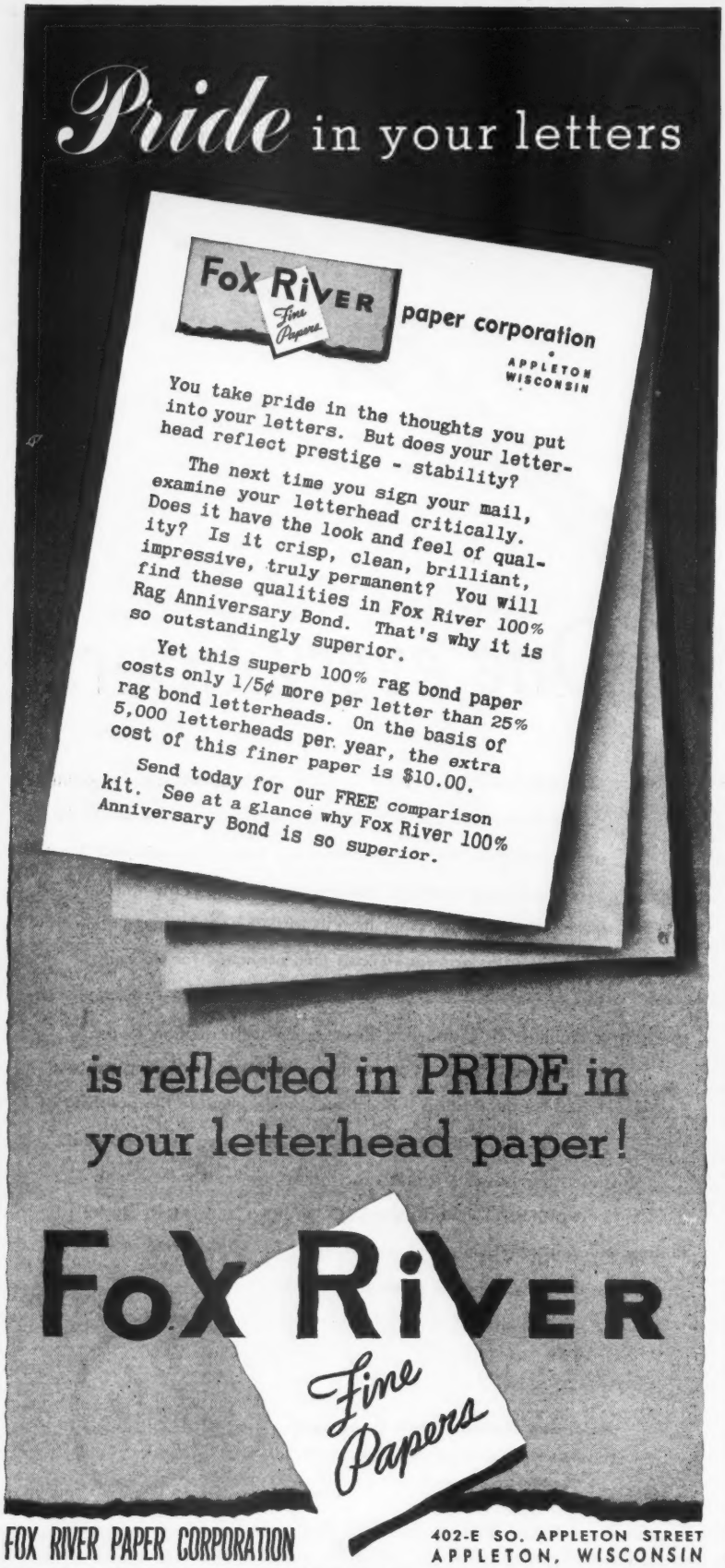
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first three months of this year were larger than in the same months last year.

In March, 3 out of 5 failures and a like proportion of the month's liabilities were concentrated in the 25 largest cities. Even among these big cities, New York, Chicago, and Los Angeles were the only ones with as many as 5 failures. Of the 25 cities 7 have not reported any failures so far this year, while Denver, New Orleans, and Pittsburgh reported in March some failures for the first time in 1945.

Compared with the first three months of last year, the number of failures was higher in one-third of the cities and the liabilities were larger in one-half of the cities.

Business Population—The number of firms in business increased from 2,839,900 on December 31, 1943 to 2,893,900 on June 30, 1944, thus reversing the downward tendency that had been apparent from September 1941 through 1943 in these Department of Commerce estimates. Despite this gradual increase there were 15 per cent fewer businesses in operation in June 1944 than in the 1941 peak period.

During the first half of 1944 there were increases in three of the major industrial groups; the number of businesses in the "service" classification increased the most, about 2 per cent to 553,800, followed closely by retail trade with a gain of 2 per cent to 1,355,100. The number of wholesale businesses rose almost 2 per cent to 116,000. The number of manufacturing firms in operation decreased only fractionally—about 0.5 per cent—to 226,400, and contract construction firms, continuing a downward trend, reached 137,400, a drop of 7 per cent.

There were 146,700 new businesses started in the first half of 1944 as against 95,400 in the last half of 1943. Business "deaths" decreased to 92,700 from 126,000.

The estimates for the changes during the first half year and for the number of enterprises at the end of the first half year are the latest that are available with figures for the six broad industrial and trade divisions. For the third quarter of 1944 less complete data is available. The number of enterprises increased to 2,938,400, an increase of 44,500. There were 82,100 new businesses started in the third quarter and 37,600 businesses discontinued operations. These estimates of changes are very close to the estimates for the second quarter.

"We particularly appreciate BURROUGHS DEPENDABILITY today, when mechanical service is so very important"

Burroughs' ability to maintain its high service standards during these trying war years didn't just happen! Years ago, Burroughs established a definite service policy in recognition of the fact that any mechanical product can be no better than the service provided for it. Today's experienced, highly-trained service organization is the natural result of this farsighted policy of careful planning, constant study, continuous training and close supervision. It is this typical Burroughs thoroughness which makes it possible to help more and more users keep their precious Burroughs machines in action today.

1st Burroughs

IN MACHINES
IN COUNSEL
IN SERVICE

Burroughs systems and installation men have been constantly helping business machine users to make the fullest use of the equipment they now own . . . helping them to adapt their present machines to new conditions. Reference libraries containing up-to-the-minute information on machine accounting methods and procedures are maintained in all Burroughs offices. For help in getting the fullest use from your present Burroughs machines, call the local Burroughs office, or write Burroughs Adding Machine Company, Detroit 32, Michigan.

FIGURING, ACCOUNTING AND STATISTICAL MACHINES • NATIONWIDE MAINTENANCE SERVICE • BUSINESS MACHINE SUPPLIES

An Important Message About YOUR POST-WAR POSITION

This message is for men who are seeking ways and means of capitalizing upon present-day opportunities and of preparing for bigger, better jobs in the post-war world.

It is only the man who is familiar with ALL of the fundamental principles of business and industry who is properly equipped to assume executive responsibility. There is no "ceiling" on his career other than that which is self-imposed; and in the years of expansion, after Victory, his services will be in greater demand than ever before!

Essential Knowledge

The Alexander Hamilton Institute's well-rounded Modern Business Course and Service, endorsed by many of the nation's top executives, is designed to provide subscribers with a thorough, complete training in the four major business functions: Production, Finance, Accounting and Marketing. A working knowledge of all of these important divisions of business and industry is absolutely essential to the executive of today—and to the executive of the future!

Noted Contributors

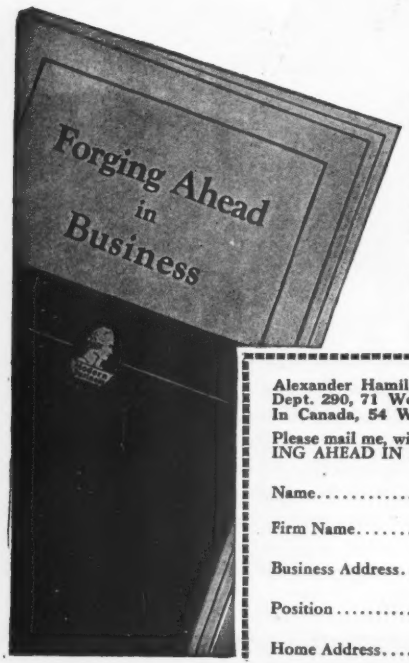
Who are the distinguished academic, business and industrial leaders behind the Institute? How is the Modern Business Course and Service brought to subscribers in a convenient, time-saving form? How will the Course and Service specifically help you—right now, today? These questions, and many others, are answered in the Institute's FREE 64-page book, "Forging Ahead in Business."

Stimulating Book

As an inspiring, informative piece of business literature, written in the light of recent world-wide developments, "Forging Ahead in Business" has no peer. Said one man who had sent for it:

> **"It's the most stimulating book I have read in ten years! Most of the stuff that business men are called upon to read nowadays is dull and theoretical. 'Forging Ahead in Business' hit me right between the eyes!"**

More than 3,000,000 copies of "Forging Ahead in Business" have already been distributed to men interested in self-improvement. It has been described as "a turning point in the lives of literally thousands of men"!



Get This Book—FREE!

You are urged to send immediately for your copy of "FORGING AHEAD IN BUSINESS." Today's timely edition can be of immense value to you. It demonstrates how the Institute can give you immediate help in your present position, while preparing you for post-war opportunities.

There are no copies for boys or the merely curious; but to any man of serious purpose it is sent *free* and without obligation.

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HERE *and* THERE

G. I. Loans—A plan for facilitating business loans to ex-servicemen under the "G. I. Bill of Rights," with a $10,000,000 loan fund underwritten by 37 of the city's commercial banks, has been instituted in Philadelphia.

Incorporated under the title "Philadelphia Agency for Business Loans to Servicemen, Inc.," the organization is opening its offices at 114-116 South 15th Street. The Philadelphia ex-soldier who wishes such a loan will present his request at this office to a staff of trained employees. Loans will be considered in the usual way. Then if the application is approved by the Veterans' Administration he will be able to receive the funds promptly without the necessity of visiting any individual bank to complete the loan.

Officers of the new corporation are: President, Anthony G. Felix, senior vice-president, The Pennsylvania Company; vice-president, John McDowell, vice-president, Philadelphia National Bank; and secretary and treasurer, Thomas G. Conklin, vice-president, Central Penn National Bank.

Third Shift Worker—A pamphlet prepared by the North Carolina War Manpower Commission for distribution to third shift industrial workers throughout that State is so general in its application that it might well be copied by plants throughout the United States.

Compiled by W. E. Ryon, State Chief, Manpower Utilization, the booklet (eight pages, five by eight inches) is designed to reduce absenteeism on the night shift by cultivating correct habits of eating, sleeping, and other bodily care as well as of recreation.

"It is an accepted fact that absenteeism among third shift workers is higher than among the other two," states the foreword. "This fact is so 'accepted,'" the pamphlet continues, "that no one seems to think that anything can be done about it. We believe that you as a third shift worker can do something about it."

Other material on the third shift which Mr. Ryon designed for plant executives and employment counselors

Better Metals for Many Uses

Precision-made brass and other Western copper-base alloys will serve important functions in a large number of tomorrow's new and improved products. Manufacturers seeking alloy metals to meet very exacting requirements find that Western, with mills at East Alton, Ill., and New Haven, Conn., delivers *as specified* . . . in sheet, strip, long coils or stamped parts.

We may be able to serve you. Now, perhaps—or later. Your inquiry will be welcomed. Western Brass Mills, East Alton, Ill., Division of Olin Industries, Inc.

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WESTERN BRASS MILLS

MASTERS OF PRECISION

DIVISION OF OLIN INDUSTRIES INC.

BRASS • BRONZE • PHOSPHOR BRONZE • NICKEL SILVER • COPPER

As our Second Century Begins

On May 17th, this bank becomes one hundred years old.

With our country locked in a great conflict, the management considers it fitting to pause only for a fleeting look backward.

Our history, perhaps, is little different from the hundreds of other pioneer banks which prospered by rendering vitally needed financial services to their community.

In 1845 our first three employees gazed from their windows upon a Cleveland that housed only 1500 families. It was a village of dirt roads and stage coaches, log cabins and crude weather-beaten frame buildings—a village without a municipal water supply or fire department.

Life was primitive and hard. But courage, ambition and confidence were everywhere.

It is written in our records that many a hardy, bearded pioneer with an idea found a sympathetic hearing at the bare little bank on Superior Street, and went forth with funds to finance his enterprise.

With the westward surge of empire came railroads, and oil and ore. And ever more people. Infant industries began to thrive.

Through the years, as our bank "grew up" with Cleveland, it was able to assist many men and firms who contributed signally to the development of our community, our state and our nation. Its service continued through the years without interruption.

Looking back, it is evident that successive managements followed flexible policies in keeping with the vision of leaders and advancing needs of the times.

This too, is the aim of our present directorate, management and employees, as our bank begins its second century of service.

THE
NATIONAL CITY BANK
OF CLEVELAND

Euclid at East Sixth THE NATIONAL CITY BANK 1845 CLEVELAND'S OLDEST BANK *and in Terminal Tower*

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stresses the necessity for better supervision on the night shift since "in spite of all care that can be exercised the average worker is more prone to 'fly off the handle' at night." Further factors considered are a third shift bonus and shift rotation.

The Nervous Veteran—Case histories, with fictitious names, of ex-servicemen who were beset by fear and nervousness when they returned to work and how they were restored to well being and to greater usefulness as workers through a proper approach on the part of their superiors and fellow employees are incorporated in a 40-page five by seven inch booklet issued by Allis-Chalmers Manufacturing Company, Milwaukee. Designed to aid foremen in adjusting returning veterans to their jobs, the booklet is entitled "You and the Returning Veteran."

The brochure states that the foreman has an excellent opportunity to help the worried veteran toward recovery. Fundamental principles are listed to guide the foreman in supervision of the worried worker and those of his associates who do not understand altogether what is happening.

The foreman is cautioned that sooner or later he may have to face the problem of an employee who is suffering from an acute or serious mental illness. As the foreman is not expected to be an expert psychiatrist he is urged to call for skilled assistance when he recognizes the situation. He is asked to contact the veteran's counselor.

The booklet will be sent without charge to any interested group or employer whom it might assist in dealing with veterans.

Steel Crust—Steel used in the races and rollers of the roller bearings manufactured by General Motors Corporation's Hyatt Bearings Division, Harrison, N. J., is hardened on the outside by gas carburizing.

The hard outside crust is put on the steel with propane gas. The steel's crust after the carburizing is extremely hard, resisting the hard wear which such bearings must undergo while functioning in tanks, trucks, and many other vehicles on the battlefield as well as in Diesel locomotives, industrial machinery, automobiles, and trucks at home. The soft inside of the steel acts as a cushion, absorbing the shock which might rupture the steel if it were hard all the way through.

The steel used is of low carbon content and relatviely soft. Thus the

Men of importance are limited less by their gifts than by lack of time.

Thus the business letter must often become the personal emissary of the executive.

It is obviously important that each such emissary bear the mark of executive distinction. It should speak for the writer not only through content and phraseology, but through appearance and tangible substance. It should reflect the prestige of its author.

Your letters will be thus distinguished...

if they are written on America's most distinguished stationery, Ecusta Fine Flax business and air mail paper. Made from American-grown virgin flax fibre, Ecusta stationery has no equal in America today for whiteness, beauty of texture, dignity and character.

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pieces can be cut off easily and machined economically to close tolerances. Quantities of the bearing parts to be carburized are placed in a revolving air-tight oven inside of a furnace and heated to 1,700 degrees. Propane gas then is fed in under low pressure and does not burn as there is not enough air inside the oven to support combustion. This gas is laden with carbon and as the rollers and races move about they absorb the carbon on their outside surfaces, causing a transformation to hard, high-carbon steel. After the gas has lost most of its carbon while passing from one end of the oven to the other, it is burned in open air to eliminate fumes.

Army Newspaper—A new slant in Army journalism is a column directed toward business-minded soldiers which made its initial appearance recently in the Camp Lee Traveller, weekly newspaper at Camp Lee, Virginia, home of the country's largest Quartermaster installation.

The column, entitled "Your Business and Mine," is edited by Corporal Arthur P. Schulze, former industrial advertising copywriter. It attempts to review concisely post-war employment programming in key industries for discharged veterans as well as opportunities open to servicemen who, upon their return to civilian life, plan to go into business for themselves. Also included is a digest of current business developments affecting men in uniform.

Good Housekeeping—The importance of good housekeeping (maintaining lockers, machines, floor space, drinking fountains, lavatories, and so on in a safe and orderly condition) is impressed on foremen and workers at the B. F. Goodrich Company plant, Akron, through a 10-page six by nine inch booklet entitled "The Return of Tattle Tail Rat." This humorous pamphlet, generously illustrated with line drawings, is the saga of a rodent who thought that good housekeeping would not pay.

Tattle Tail, an imaginary rat who

..."Used on projects in every shipyard in which we are working"

60 years' experience in making ADHESIVES THAT WORK

—BAY CITIES ASBESTOS COMPANY

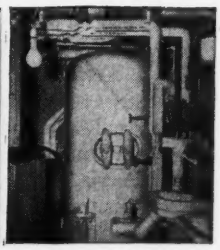
1. Lagging material is submerged in Arabol Cement.

2. Material is saturated in a matter of seconds.

3. On withdrawal, material is partially wrung out.

4. Damp material is wrapped around pipe or duct.

5. After wrapping, material is smoothed out. When dry, it shrinks and thus pulls itself firmly around covering.



6. Finished job shows various pipes, ducts and chambers covered with cemented material. Notice workmanlike finish.

A letter from Mr. M. A. Clune, Vice President, says—"On one job where we were doing the hull insulation, another type of adhesive was specified for securing the fibreglas stripping tape but after a rigid test, the inspectors insisted that we substitute the Arabol Adhesive Cement in lieu of the other.

"If canvas is dipped in the Arabol Adhesive Cement or a brush coat is used for taping, it serves as a prime coat or sealer and saves a great deal of time and paint primer where the insulation or lagging is to be painted.

"We recommend it very highly for securing canvas, fibreglas, asbestocel paper or any other insulating material. This material is being used on projects in every shipyard in which we are working."

* * *

Many other ship builders throughout the country use Arabol Lagging Cement to save time and money and to improve the finished results of their lagging operations. One yard making LST's reports saving up to *1500 man construction hours per ship!* Another firm writes, "We have found Arabol Lagging Cement easier and faster to apply by less skilled labor at less cost and produces an installation superior in quality."

Arabol Lagging Cement dries in 4 to 6 hours and tests show it will not re-moisten even under extreme temperature conditions. It leaves a sized finish on canvas which requires only *one* coat of paint. The finished job is neat—and grease, oil, soot and other dirt wash off easily.

Full facts are available on request. Arabol has been solving industrial adhesives problems for 60 years—with over 10,000 formulae on file. Contact us for answers to your adhesives problems. Have an Arabol Engineer call for consultation. No cost, no obligation.

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If you need more cash in your regular business than you can get from present sources, you'll find that Commercial Credit is not handcuffed by time-worn thinking, rules and customs. Unlike old-line institutions, we're more interested in your profit potentials than in your current position.

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was driven from his lair at the Goodrich plant by an efficient housekeeping program returns to see if he can find a niche for himself again and comments on examples of good and bad housekeeping which he finds throughout the factory.

The pamphlet concludes with the exhortation "Good housekeeping indicates good management. Good management is expected of you."

Apparel City—Foreshadowing similar steps by other industries, the apparel industry in San Francisco has made plans for the construction of a four million dollar "Apparel City" as soon as materials become available. The center, which it is planned will house the entire industry, will consist of 37 buildings extending over an area of 25 acres, landscaped to provide a harmonious background.

Land has been bought and paid for in the Pottero District, convenient to Bay, rail, and air transportation. Concrete plans with leading architects are being made.

The "city" is intended to encompass every need of buyers, manufacturers, and garment workers. In one centralized location will be garment factories, the offices of allied industries, schools to teach various trades, and a nursery where workers may leave their children under supervised care. Likewise, there will be restaurants, bars, beauty parlors, drug stores, branch banks, post offices, and recreational facilities.

Rehabilitation Program—Seven steps accompany the return of the physically handicapped veteran to the Caterpillar Tractor Company plant, Peoria, Ill. A 12-page four by nine and a half-inch booklet entitled "Back on the Job," illustrating each of these steps by word and photograph, summarizes the program as follows:

1. Personnel division: (a) interview by veteran interviewer; (b) statement of military experience filled out.

2. Medical division: (a) complete physcial examination; (b) discussion with the doctor.

3. Veteran interviewer: (a) definite job offer and assignment; (b) previous identification pass and badge reissued.

4. Insurance division: previous insurance reinstated.

5. Safety division: safety equipment provided.

6. Job placement: (a) supervisor informed of pertinent facts; (b) enter regular training program or go direct to job. The veteran may enter one of

Better Labor Relations—"PCA" *a by-product of* PCA

Remington Rand Punched-Card Accounting gives Weyerhaeuser Timber Co., Everett, Wash., better and faster control of costs and payrolls, and improves labor relations.

● Clear, factual information, such as Remington Rand Punched-Card Accounting provides, enables labor and management to meet on a common basis of understanding . . . to their mutual advantage . . . as the following Weyerhaeuser experience shows: "The Everett mill, Pulp Division, is one of five offices of this group using Remington Rand Punched-Card Accounting and Tabulating Machines.

"The operating labor of 250 workers on 3 shifts is distributed over 200 classifications and rates. A detail job summary permits close control of labor costs.

"The tabulated payroll check stubs show the employee his earnings for each day, with all deductions identified. This clearness pleases the employee and prevents misunderstandings. Labor negotiations are on a sounder basis with detailed, accurate reports so readily available. The Withholding Tax offers no difficulty.

"The use of Remington Rand Punched-Card Accounting has resulted in more prompt, complete and accurate reports to headquarters and to the men charged with the responsibility of raising production at constantly lower cost. Ability to supply these data earlier than by the manual method has contributed materially to our improved control.

"The Remington Rand Tabulating Equipment for all five offices was purchased outright."

The full, detailed story of how Weyerhaeuser uses "PCA" is contained in Certified Report No. 4404 . . . copies of which are available free to interested executives by writing to our nearest Branch Office, or direct to Remington Rand Inc., Tabulating Machines Div., Rm. 1703, 315 Fourth Avenue, New York 10, N. Y.

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Only **REMINGTON RAND TABULATING MACHINES can be PURCHASED as well as leased.**

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Write for: **"The HOLE-STORY of Punched-Card Accounting"—** ***the book that tells a vital story to business. It's FREE!***

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Into it, he speaks his ideas, reports and decisions—all to be put into immediate action. He can even record over-the-desk conversations, and all the while his secretary is left free to protect him against interruptions and do other important work for him.

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the regular training programs or one especially provided through the cooperation of the medical and training departments, if considered advisable.

7. Follow up: (a) complete records kept on all veterans; (b) progress reports made at regular intervals. The veteran is free to return to the counselor or doctor to discuss any problems.

The rehabilitation program is based on the company's experience of many years in returning its own employees to work following industrial accidents. It also has that experience gained during the present war when there was uncovered a sizable source of manpower in those who had been handicapped from birth or by accident elsewhere—those who were deaf, dumb, blind, or with loss of limbs or deformities. The company's planning is likewise based on the theory that returning veterans primarily will be interested in jobs and not in the hero worship sometimes accorded returning soldiers.

Coach Seats—Increased comforts for the overnight coach traveller through reclining seats coupled with leg rests which give a full length chaise lounge sleeping surface is provided by Pullman-Standard Car Manufacturing Company designers in the post-war Day-Nite coach.

The cushions in the chairs have been constructed to conform with body contours. Each seat is independently adjustable to various degrees of reclination. For sleeping, the traveller may lower the back of the seat to a nearly level position. He can then press a button and unfold a two and a half by two foot cushioned leg rest which is built into the back of every seat. In position, this leg rest appears to be an extension of the regular seat.

Curtains which draw out to provide screens between the seats afford greater

CRISIS KIT . . . kept ready for emergencies by Mr. Cellophane

FLARES, flashlight, instruction books, etc. are vital equipment for this collapsible lifeboat which is carried on the mighty Clippers that are flying high priority passengers and freight on the global airways. These essential items must be in perfect condition in case of emergency—and that means another vital job for Sylvania cellophane! The articles are heat sealed in air-tight moisture-proof cellophane and inserted in the pocket of the inflated boat. Then the boat is deflated and stowed in its place on the Clipper. Here is just another essential Sylvania development that will mean more uses for cellophane . . . and better cellophane . . . in the postwar world.

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SYLVANIA CELLOPHANE

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Speeds up packaging . . .
cuts down shipping losses

Floated on a soft, downy cushion of KIMPAK*, war materials of every kind are reaching the far-flung battle fronts in perfect fighting condition. And after victory, this modernized method of protective packaging will be a boon to peacetime shippers.

Because KIMPAK is so compact, so flexible, so easy to use, it speeds packaging—saves time and work in the shipping room. Often cuts freight costs by reducing package size and weight.

KIMPAK comes in various forms to provide dependable protection for anything from refrigerators to jewelry. It will pay you to learn the whole story about this amazingly resilient cushioning material. For a free illustrated book mail a postcard to Kimberly-Clark Corporation, Creped Wadding Division, Neenah, Wisconsin . . . and when planning your postwar modernized package include KIMPAK for internal packaging protection.

FREE POSTWAR PACKAGING PLAN

In making plans for your postwar product the advice of our packaging respresentatives is yours for the asking. In most cases, they will be able to recommend a war-proven method of float packaging with KIMPAK.

Telephone, write or wire today for the KIMPAK representative.

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*TRADE MARK

CREPED WADDING

privacy. Another feature is a transparent plastic case built into the inner side of each arm rest to hold pocketbooks and other valuables.

Research Council—Portland, Me., has set up a research council as a means of solving the problem of how to keep its industries operating at high peak when the war ends. The Greater Portland Research Council is ferreting out new products for manufacture and acquainting local business men with the natural resources of the State.

A principal aim of the council is to impress upon the smaller companies of the Portland area the importance of technical research. Membership in the council is restricted to engineers, chemists, and technical men who study new product suggestions and forward them to Maine manufacturers seeking peacetime projects.

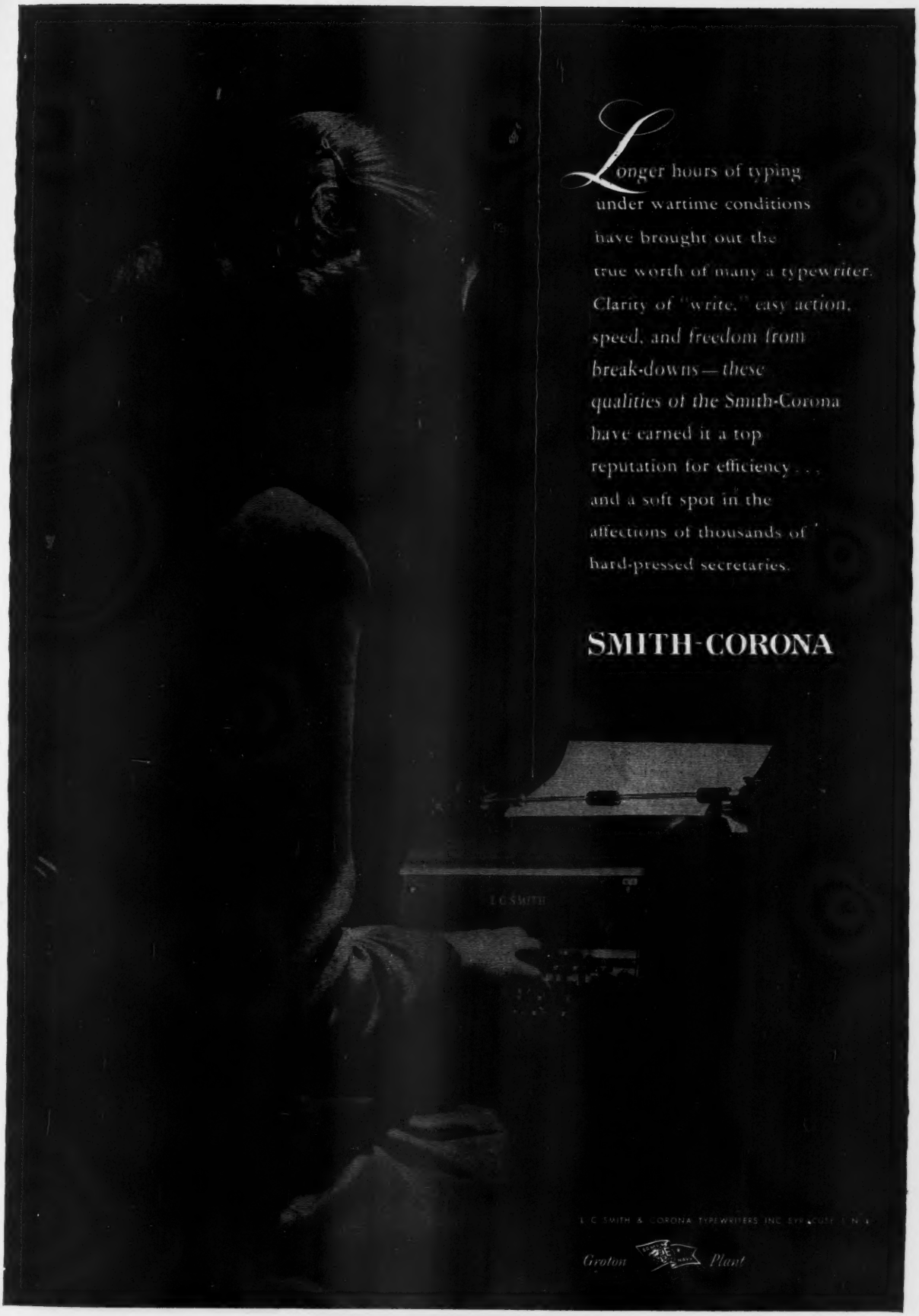
Committees play an important part in the council's endeavors. A research and consulting committee stirs up interest in research. Local business men and the members of the council are acquainted with the activities of other similar organizations through a liaison committee.

Correlating ideas for new small businesses in the area and maintaining lists of small businesses which could be started, possibly by war veterans, is the function of the placement committee. Local business men are brought together as prospective suppliers or customers by the local products committee. Facts about Portland such as living, population, types of people, social welfare, etc., are gathered by the economic facilities committee.

Drafting Standards—A series of American War Standards for drafting-room use that will correlate the practices of the Army and Navy with those of industry is being prepared by the American Standards Association at the request of the War Production Board.

Blueprints, plans, and drawings which are involved are used in the design and manufacture of even the simplest mechanical device. Army and Navy spokesmen believe that marked economies will result from this undertaking as it will overcome the present diversity of drafting practices between the various branches of the Armed Forces and industry, together with its attendant waste, confusion, and delays in providing the drawings needed for war equipment.

The following subjects will be cov-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under wartime conditions
have brought out the
true worth of many a typewriter.
Clarity of "write," easy action,
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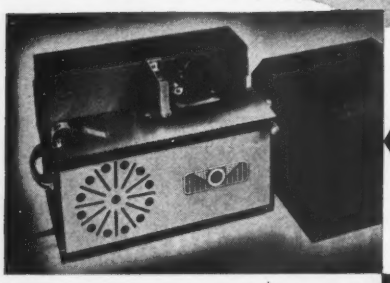
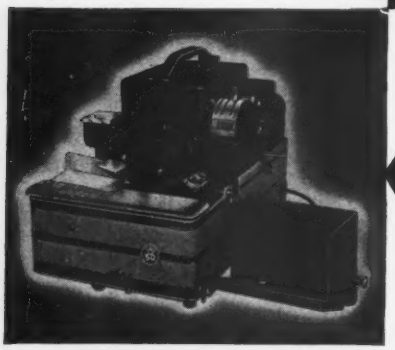


SPEEDY DISTRIBUTION of wartime mail is greatly facilitated in many an office with the USPM Letter Opener—the machine that opens from 100 to 500 letters per minute! Gives every department an early start on the day's business. Speeds up the entire organization.

...AND MAXIMUM POSTAGE SAVINGS are effected through the use of USPM Mailroom Scales which accurately and automatically weigh and indicate the exact postage required. Modern mailrooms make every postage dollar count by using both postal and parcel post scales on outgoing mail.



CENTRALIZED CONTROL of mailings from all departments—with a U.S. Postal Meter—also helps busy offices cope with the flood of wartime correspondence. This machine seals, imprints correct postage, postmarks, counts and stacks in one mechanical operation.

Here are some of the machines *you* should have in *your* modernized mailroom. Plan *now* to have them when they are again available.

Metered Mail Systems... Postal and Parcel Post Scales... Letter Openers... Envelope Sealers... Multipost Stamp Affixers... Mailroom Equipment. ***(Many units available.)***

Our Plants A and B proudly fly the Army-Navy "E"

COMMERCIAL CONTROLS CORPORATION

U. S. POSTAL METER DIVISION

Rochester 2, New York

Branches and Agencies in Principal Cities

ered: Abbreviations; methods of indicating and specifying threads; methods of lettering; drawing forms and sizes; graphical, diagrammatic, and schematic symbols; methods of indicating and specifying materials, finishes; methods of dimensioning and indicating tolerances; and methods of numbering drawings.

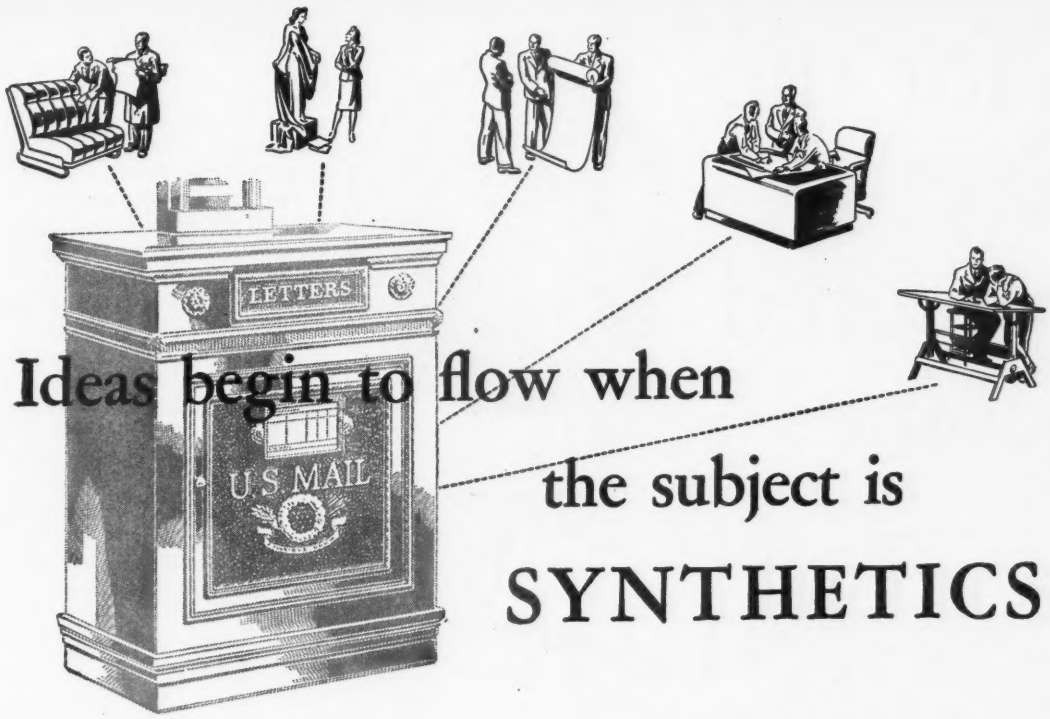
Controlling Coulants—A packaged mechanical refrigerating system for controlling the temperature of coulants and cutting oils to secure increased efficiency from machine tools has been developed by the Airtemp Division, Chrysler Corporation.

Cutting oils, flowing over the work of machine tools and used for lubrication, cooling, finish, and for carrying away cuttings may under high speed operating conditions lack sufficient cooling properties and cause variations in the size, shape, and location tolerances of the work piece and of the machine itself, Chrysler officials point out.

The Airtemp packaged cooling units are designed to produce a uniform temperature by removing a constant volume of heat equal to that being generated, thus taking heat away rapidly enough from the point of cut. These automatic units are adjustable to suit the individual machine.

Discharge Button—While more than a million veterans of the Armed Forces now are entitled to wear the Honorable Discharge Button which is issued to each person on his honorable discharge from the Army, Navy, Marine Corps, and Coast Guard, service headquarters are frequently informed that the public generally does not recognize the meaning of this emblem (reproduced below).

Veterans with long combat service overseas, now returned to civilian life, have the unpleasant experience of being challenged for their failure to appear in uniform. This is because their badge of honorable service has not been recognized.



Ideas begin to flow when the subject is SYNTHETICS

RECENTLY a brief description of the new Celanese* synthetic yarn, Fortisan*, was published. Little was mentioned beyond the fact that it is the world's strongest textile yarn, that Fortisan couples extreme strength with exceptional lightness, that it is extensively used for parachute fabric, shroud lines and other war materials.

But almost immediately letters began to come in. Fortisan started ideas flowing from many types of industry looking to postwar products. Here is a cross-section of the variety of thinking Fortisan has stimulated on the part of designers, engineers and manufacturers:

... one was for acoustical insulation
... one inquiry was concerned with Fortisan for brush bristles
... one was for fish nets
... electrical insulation was another
... neckwear linings were another
... shower curtain materials were another
... one asked about plastic laminations
... one inquiry covered dental floss
... another mentioned lingerie
... automotive fabrics were still another
... brassieres were another subject
... flags and bunting were another
... men's shirts were another

This distinctive new yarn, Fortisan, is a good example of the fundamental way in which synthetics work to stir the imagination. These man-made materials that are free of natural limitations, that can be created to combine specific properties and to meet exact objectives, are an exciting challenge.

This challenge is working constantly at Celanese in all three basic synthetic fields—textiles, plastics and chemicals. An example in the latter field is Lindol*. Beginning as a plasticizer, special formulations of Lindol are now serving as lubricant additives, increasing the film strength of aviation motor oils many times; as an important component of anti-fouling, barnacle-resistant paint for Navy ships; as a non-flammable lubricant for hydraulic presses in war plants, thereby reducing fire and explosion hazards.

Celanese technical service and research are always at your disposal. At Celanese every opportunity to exchange ideas is welcomed—particularly when the subject is synthetics. Celanese Corporation of America, 180 Madison Avenue, New York 16, N.Y.

*"GREAT MOMENTS IN MUSIC"**
PRESENTED BY CELANESE
... EVERY WEDNESDAY EVENING
COLUMBIA NETWORK
COAST TO COAST

Celanese*

TEXTILES
PLASTICS
CHEMICALS

*Reg. U. S. Pat. Off.
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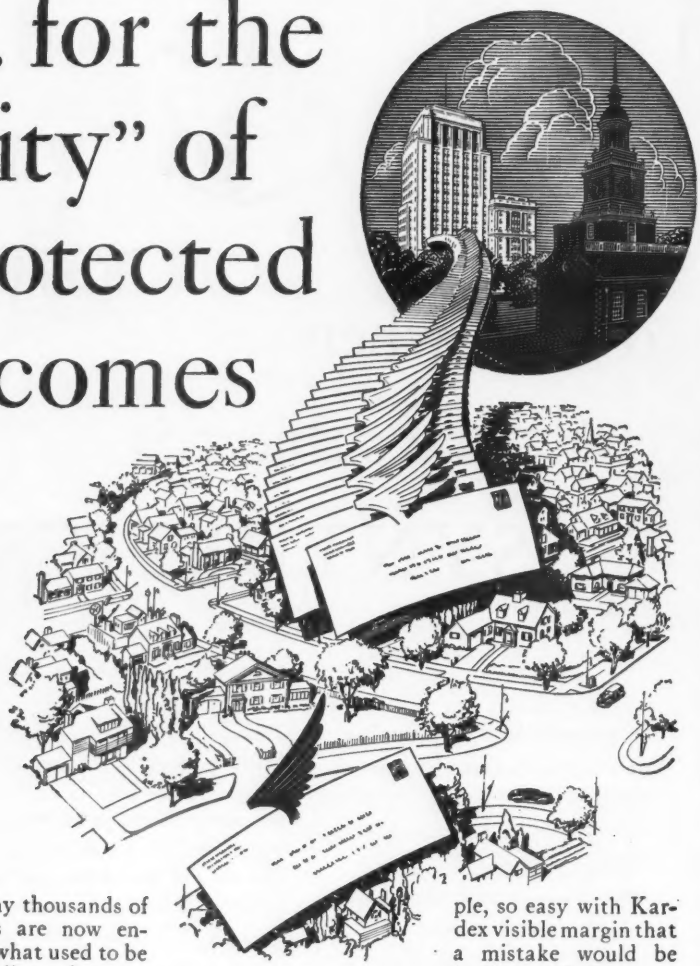
PENN MUTUAL'S *use of Kardex* "FACT-POWER"

. . . for the "city" of protected incomes



● Many thousands of families are now enjoying what used to be the privilege of a comparative few—economic independence. Each month enough of these men and women to make a good-sized city receive, regularly, a check for annuities or life insurance benefits from The Penn Mutual Life Insurance Company.

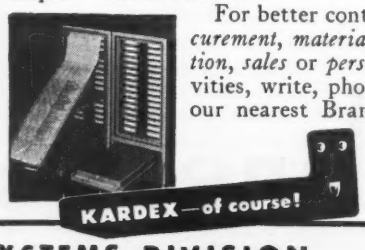
Unfailing promptness and accuracy are as important to Penn Mutual as they are to the people whose income these checks provide. So Penn Mutual makes sure . . . and uses Kardex *Visible* for the important records that control these payments.

Errors and delays have been cut to the vanishing point, while the growing number of payments has been handled by fewer clerks. Reference is so fast, so simple, so easy with Kardex visible margin that a mistake would be hard to make!

Nor do Penn Mutual's records become lost or mislaid because even in use, they always remain in place. At a flip of the finger all needed facts come into instant view.

While Penn Mutual's administrative control is a notable example of the effective use of "Fact-Power", *every business* has vital record-keeping jobs to which Kardex can bring greater speed and efficiency—improved accuracy and facility of executive control.

For better control of *procurement*, *materials*, *production*, *sales* or *personnel* activities, write, phone or wire our nearest Branch Office.



SYSTEMS DIVISION

REMINGTON RAND

Buffalo 5, New York

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Post-War Kitchen—Elimination of drudgery in the post-war kitchen with time-saving devices performing the dirty, uninteresting tasks, is predicted by Miss Geneve L. Shaffer, National Association of Real Estate Boards.

Push-button electric peelers, scrapers, and scrubbers will lighten the task of preparing each meal, says Miss Shaffer. A germ-destroying vegetable spray will have a place besides the automatic dishwasher, with a suction chute to carry the refuse to the incinerator.

Miss Shaffer envisions opalescent, unbreakable dishes stacked in colorful, easy-to-draw out trays, covered like burners in a table top stove. No step-ladder will be needed for the top shelf as there will be no upper cabinets to mar the beauty of the glass-brick and plastic walls.

The recipe phonographic-television radio mounted in the wall will prompt the cook so that all food will be scientifically cooked and timed.

Strappers' Glove—A glove to afford hand protection to the operators of strapping machines has been developed by the Industrial Gloves Company, Danville, Ill. The great increase in the use of wire and steel tape for preparing shipments for overseas transportation heightened the need for such protection.

The resulting glove is constructed on a flexible, comfortable, seamless palm pattern with an extra palm patch of chrome tanned leather to provide longer service. The base glove is grain leather. The fingers and thumbs are left with open ends to increase flexibility and to permit the picking up of tape or wire, small tools, and so on. Another feature is the open back for coolness. The glove is made in sizes for men and women.

Read-on-the-Run—Employees of Schenley Distillers Corporation now serving in the Armed Forces who were with the company before March 16, 1940, receive military benefits equalling one fourth of their peacetime salaries up to a maximum monthly benefit of $104. Proportionate amounts are paid to those employed at later dates. . . . Synthetic rubber production in the United States during 1944 attained the rate of 800,000 tons a year. . . . The radio telephone is used by a girl dispatcher at the Fisher Cleveland Aircraft unit of General Motors in directing operations of eight big overhead cranes, eliminating the former system of hand signals, flasher lights, and horns.

In Chicago, CCH occupies over 100,000 square feet in this modern building on North Michigan Avenue.

CCH Telegraph, telephone, teletype and fast mail pour a steady stream of current legal information into the editorial offices of Commerce Clearing House. Full texts of legislation proposed or enacted, decisions of the administrative authorities and of the courts, opinions of attorney generals, rulings and regulations, reports of important bills on their way toward becoming law—all go to swell the stream into a veritable flood.

Expedition combines with care as the raw materials are separated from each other, assayed and routed to their proper destinations: the editorial departments having jurisdiction over them. Here they are analyzed—literally taken to pieces and evaluated. Combined in new patterns, they reappear as data for new Reports pages, as CCH "dispatches," as special bulletins—in a word, as answers to hosts of questions that will soon be propounded by hosts of persons as yet unaware of new developments affecting them.

Proofread by meticulous eyes, the "copy" is rushed to the presses. Quickly the rolling rhythm of the pressroom picks up the beat, while bindery and compiling rooms swing into action and the runs approach completion.

In the mailing department, as batteries of typewriters sing their staccato song, specialized machinery and swift fingers complete the cycle by which the vital news of the day is transformed into efficient working tools and placed in the hands of subscribers all over the country. Commerce Clearing House Topical Law Reports, by consistently meeting the specific needs of business and professional workers everywhere, have established among them a recognized symbol. For them the initials CCH mean dependability and good will.

Write for details of reporting in your field. » » » »

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PUBLISHERS OF TOPICAL LAW REPORTS
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CCH TOPICAL LAW REPORTS

Asked the President of the Purchasing Agent:

Did you say that war restrictions have IMPROVED *the serviceability of the paper we use?*

Said the Purchasing Agent to the President:

Right. War restrictions IMPROVED *the performance of the stationery and record-keeping papers we use.*

"WAR made paper scarce. It became necessary to get more sheets per pound. Stationery and record-keeping papers had to be thinner. To get sufficient strength and wear from thinner papers we bought paper of greater cotton content. These papers proved stronger and more serviceable than papers made all of wood pulp. There's less waste because cotton fiber papers stand more erasing. These papers look better, take more use and abuse, and last longer."

When war restrictions go, don't return to the wasteful practices of yesteryear. When you order stationery and record-keeping papers, specify PARSONS. You'll get the finest cotton fiber papers from a mill that specializes in paper for modern business, made to reflect and record the *quality* of your organization.

PARSONS
PAPERS
MADE WITH COTTON FIBERS

PARSONS PAPER COMPANY • HOLYOKE, MASSACHUSETTS

Management Training—Executives of the Edward G. Budd Manufacturing Company, Philadelphia, are given realistic experience in handling complicated management problems.

The courses are set up according to age levels and relative importance of positions. Membership is limited to 15 men to a class which meets weekly after office hours in an executive dining room following a dinner provided by the company. The members of the younger group start and finish the 20-session seminar at the same time. One man a month is graduated and another taken in by the senior group.

Membership in the classes is by invitation of the management and acceptance is voluntary. The courses are devoid of textbooks, printed matter, and home work. At each class meeting there is a short lecture followed by discussion of a single topic.

Topics are suggested by various members, and thus far about 500 have been listed for possible use. Topics are not selected in advance. Speaking is entirely by priority to prevent interruption. All information is confidential, to encourage freedom of speech. Members learn more about the company and groundwork is laid for improved cooperation.

Management gets a brief report of each discussion, listing every significant idea, showing points of controversy and agreement. By reading these reports other executives are able to utilize their value in making actual management decisions.

Veterans in Aviation—Following up a nation-wide survey of employment counselors' plans regarding the employment of returning veterans, the Spartan Aircraft Company, Tulsa, Okla., is publishing monthly in the *Spartan News,* company house organ, plans of its own and other companies. This magazine is being sent to veterans' counselors and personnel directors throughout the industry.

The survey took the form of four field trips made by Adam M. Butler, manager, Rehabilitation Department, Spartan Aircraft Company and Spartan School of Aviation. It was decided to make this project a continuing survey and to publish the results after numerous veterans' counselors informed Mr. Butler that such a system would give them much needed information from the industry's personnel directors relative to job requirements, job termination, new jobs, jobs for the handi-

Remittances to
THE LIBERATED AREAS OF THE
Philippine Islands

Remittances of funds up to $500 per month per household for living expenses may now be made to the liberated areas of the Philippine Islands in conformity with United States Treasury regulations.

The Chase National Bank has been designated by the President of the Philippines as New York correspondent of the Banking Division of the National Treasury of the Commonwealth of the Philippines through which such remittances can now be effected.

Remittances for other purposes or of greater amounts are subject to specific United States Treasury license.

Whether you desire to remit funds by cable or ship's mail, the Chase is in a position to translate your wishes into immediate action.

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK

Member Federal Deposit Insurance Corporation

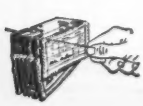
Six months ago . . .
—it couldn't have happened!

Bill in Sally's eyes is a ringer for Clark Gable. Her soldier hero with the Purple Heart had a thirty-day furlough, met Sally on his first Monday night home. By the end of the week, Bill and Sally were swinging on their own private star . . . together every night.

Six months ago—it couldn't have happened to Sally . . . because the cost department where she works kept her busy overtime the first three nights of every week. With help short, reports long, her company simply couldn't get current cost figures out in the normal working day.

But one of the executives called in a McBee man to survey the situation. Then came Keysort for time keeping and cost distribution. Now payroll figures are ready on time, management gets reports when they can be used, overtime except in emergency is out... and Sally gets a supper and a smack instead of a snack.

McBee's business is making facts available faster. Our procedures and products are custom-designed to fit your individual problems . . . can be quickly understood and easily used by ordinary office personnel . . . save time, work and worry. If your daily reports lag—call a McBee man today!



THE McBEE COMPANY
SOLE MANUFACTURERS OF KEYSORT
295 Madison Ave., New York 17, N.Y... *Offices in principal cities*

capped, and other information which would be of value in counseling veterans during the rehabilitation period following the war. Personnel directors stated that such bulletins would serve in keeping them individually informed concerning the industry's requirements during the rehabilitation period.

Stockholders—The efforts made by the Raybestos-Manhattan Company, Inc., Passaic, N. J., manufacturers of asbestos friction material and mechanical rubber goods, to encourage stockholders' attendance at and participation in its annual meeting have brought an appreciative response.

At its recent meeting one of the stockholders offered a series of resolutions commending the company for its succesful effort to bring the stockholders together, make them feel welcome at the annual meeting, give them a full and frank answer to their questions, and, by a detailed listing in the annual report and through attractive exhibits at the meeting, inform the stockholders of its products in such a way as to make them potential boosters for the goods.

One of the resolutions commended the company upon the inclusion in the annual report of a comparative operating statement reduced to ratios showing the proportion of the sales dollar expended for materials, labor, taxes, and other items.

Stockholders subsequently received a well illustrated booklet printed in color containing photographs of the stockholders' meeting, the firm's officers, laboratory work, employee activities, and uses of Manhattan-Raybestos products on the battlefields and on the home front.

Vacuum Gage—A new type of vacuum indicator which operates directly from any 110-120 volt AC line and is suitable for any manufacturer requiring continuous or occasional vacuum readings in processing, is manufactured by the Continental Electric Company, Geneva, Ill.

The gage, known as Tru-Vac Model 18, is scaled to read pressures of a vacuum system from .25 to 250 microns and is accurate to plus or minus 2 per cent throughout the scale, with constant voltage imput. The gage is unaffected by changes in barometric pressure.

Meter and controls are contained in a metal case measuring only eight by six by three and one-half inches and the indicator was planned for ease of attaching to the vacuum system. The

H.C.* doubled Johnson's production!

*HC means *hidden credit* (inventory) —used as security for a bank loan.

1 When a new customer gave Johnson's mill its biggest order, his cash was tied up in surplus raw material. And the order called for 30 day delivery!

2 How could he meet the immediate huge step-up in production expenses? Suddenly he had the answer. Inventory is hidden credit... could be field warehoused right on his premises!

3 The Lawrence Warehouse Company issued a field warehouse receipt on his stock inventory. On this security Johnson's bank loaned him the money, he kept his date... and doubled his business!

YOU can field warehouse any marketable commodity of yours—from cotton to canned goods, from culverts to chemicals —through the 30 year old Lawrence Warehouse Company. And the cash it represents is freed for current expenditures!

Almost any bank will gladly grant a loan on your Lawrence Warehouse receipt...and the inventory remains on your premises. Banks welcome this Lawrence System service. Ask your banker to explain it to you ...or get in touch with your nearest Lawrence branch. Without obligation, and entirely confidential, of course.

LAWRENCE WAREHOUSE COMPANY

Field Warehousing FOR BANK LOANS ON INVENTORY

LAWRENCE SYSTEM

New York: 72 Wall Street • Chicago: 1 N. La Salle Street • San Francisco: 37 Drumm Street
Los Angeles: W. P. Story Bldg. • Buffalo • Atlanta • Cincinnati • Boston • Philadelphia
Kansas City • St. Louis • New Orleans • Jacksonville, Florida • Dallas • Houston
Denver • Fresno, California • Portland, Oregon

Catalin

A PARTY TO THE SHOWDOWN

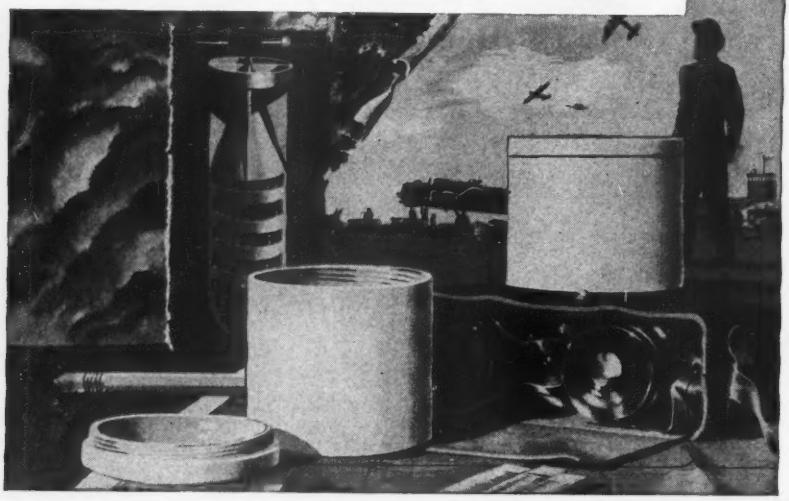
The War Department's Chemical Warfare Service has developed a specific requirement for which Catalin has proven ideally suited! Small Catalin jars, ordinarily identified as cigarette humidors or cosmetic containers offered the design and structural form necessary to a newly devised and highly effective bombing pattern.

For the present, fulfillment of this vitally important assignment is requiring every possible ounce of Catalin's vast and complete production. And . . . even though such a situation curtails civilian-use Catalin, remember that the end purpose of the task at hand will mean a brighter future—sooner!

So, as Catalin continues to lay these needed bomb elements on the line . . . continue to lay your Catalin plans on the line, too. For this purpose the facilities and counsel of our technical staff are at your service!

CATALIN CORPORATION
ONE PARK AVENUE, NEW YORK 16, N. Y.

CAST RESINS • LIQUID RESINS
MOLDING COMPOUNDS



Manufacturers and Sales Organizations In All the United States Appreciate Good Automobile Transportation Service

WE are continuing to provide adequate transportation from coast to coast for many of America's largest and most important industries. It has indeed made us proud of our privilege and performance in being able to serve the very same lessees during the war as we did before hostilities . . . and without one single exception!

The R. A. Company

Pioneers in fleet automobile leasing

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ALLegheny 6065

meter and controls can be mounted at a distance from the point at which measurements are to be taken.

Tru-Vac applications are in industries making such products as refrigerator devices, tubes of all kinds, vacuum bottles and jugs, manometers, thermometers, neon signs, foods, vitamins, penicillin, and other products in the processing of which it is important to measure vacuum.

New Locomotives—Under design by the Pennsylvania Railroad is a big steam turbine locomotive called the "Triplex" because of its unusual appearance. Arranged differently from any locomotive previously built, coal will be carried in a compartment in the front. In the center will be the cab and boiler section, with the cab ahead of the boiler and the smokestack in the rear. The third section will be a large water tender.

The entire unit will cover nearly 137½ feet of track. Power for the 9,000 horsepower Triplex will be provided by two direct-drive steam turbines. This locomotive is intended to haul heavy trains at high sustained speeds in both passenger and freight service.

Another new passenger and freight locomotive also is under design. The type under consideration for experimental purposes is a turbo-electric coal-burning steam locomotive of great power and speed to be produced jointly with other railroad and equipment companies.

Three other new types of locomotives are in operation on the Pennsylvania Railroad. These include the T-1, a multi-cylinder passenger and freight locomotive, capable of 100-mile-an-hour passenger speeds: Q-2, a fast and powerful freight locomotive; and S-2, the first direct-drive steam turbine locomotive to be built in the United States for both passenger and freight work.

Personal Safety—"Stress the personal benefits of safety," urges Thomas R. Self, assistant engineering manager, Southern Division, American Mutual Liability Insurance Company. The difference between success and failure in selling any safety idea or plan is to win the listener's support by showing what it can do for him, Mr. Self indicates.

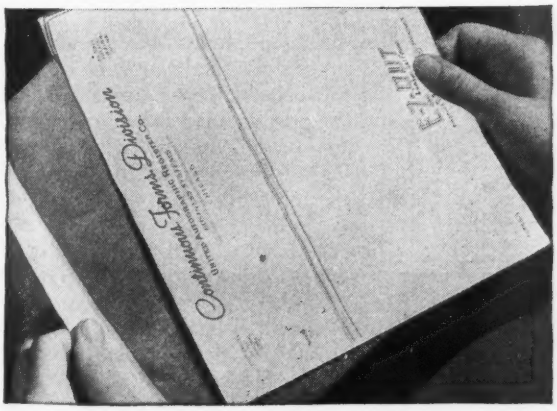
"What connection can there be between the instinct for personal benefit and the reduction of accidental injuries?" asks Mr. Self. In reply he states "Simply that many of manage-

"Liar!"

Eight hours of productive work. That's what time cards indicate. It's the kind of service good employees try to give. But they know, even if the boss does not, that time clocks lie.

A time clock, you see, doesn't record *wasted time.*

And in many a business today, employees are forced to waste time because they are using inefficient forms—forms that fail in their primary function of getting the right information to the right people in the fastest possible way. It's easy to overlook that function because forms are so often regarded as "mere routine."



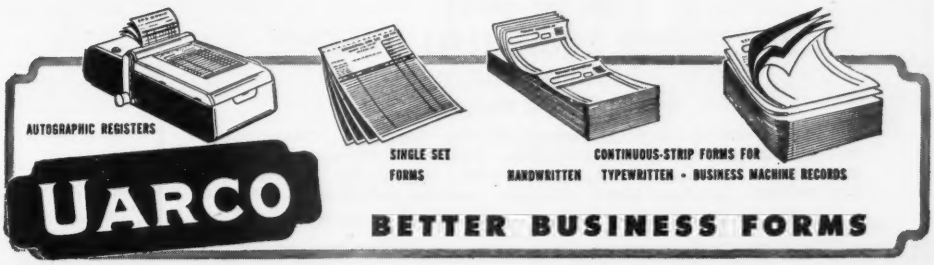
Uarco has devoted more than 50 years of thought and effort to the job of making forms work faster. We've devised ingenious ways of combining paper and carbons to save from 17% to 78% of form-handling time. We've invented entirely new forms to cut down the time-lag in *every* business operation where forms are used.

Perhaps the Uarco Representative can suggest forms that will help your employees to give you more of their *productive* time. A consultation costs nothing—and may save you hundreds of dollars.

UNITED AUTOGRAPHIC REGISTER COMPANY
Chicago, Cleveland, Oakland • *Offices in All Principal Cities*

for instance . . .

We call this form the Uarco E-Z-Out. Up to 6 copies with pencil . . . up to 17 copies with typewriter. Then snap! Out pop the forms ready for instant distribution . . . singly or all at once. Here's a real time-saver when records must be written at odd moments, or when later entries are necessary. But remember, no matter what type of records you keep, Uarco has a form which may save you time and money!



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COMBUSTION EQUIPMENT DIVISION

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On the firing line of America's war production front

ment's bewildering failures to get a more widespread acceptance of safety principles can be traced to failure to make good use of this human trait. Proper emphasis on the benefits of safety to each one concerned is a most important phase of a safety program. It is necessary, therefore, that management approach plant safety in such a way that people grasp the idea because it is presented with the personal benefits made completely obvious.

"The personal benefits of safety to the worker are numerous. His physical well being, the retention of his earning capacity, and his place in the home and community are benefits which accrue to the safe worker. This can be contrasted with the physical suffering and the monetary hardships for himself and his family which invariably result from serious injuries. Some plants have seen fit to emphasize tangibly the safety benefit by means of monetary awards or bonuses to all employees of a department for each month of accident free operation."

GROSS PRODUCT

(Continued from page 14)

did not, for example, fully reflect unstatistical war developments such as the down-grading of qualities or compulsory shifts to higher qualities because of the disappearance of standard goods. For such invisible factors the committee made an allowance of an additional 4 to 5 per cent. It also happens that because of staff limitations and primary interest in wage earners the Bureau of Labor Statistics' index rests largely on metropolitan data.

The United States Department of Commerce has sought to extend that base into rural areas as well, at least experimentally, and concluded that the resulting more comprehensive cost of living index had risen by 2 or 3 per cent more than that resting on the older and narrower base. So we have possible measures of cost of living increases over the period from 1939 to 1943 ranging from 24 per cent to 33 per cent. Cost of living figures do not necessarily have much to do with the pitch of business activity necessary to support full employment in future years, but they will have a lot to do with any statement of goals in dollars and cents terms.

One can sympathize with the plight

POWER TO FINISH THE JAPS!
ROHR Aircraft Corporation manufactures and assembles these huge power plant nacelles for Lockheed's famed Constellation . . . just one of ROHR'S contributions to quicken the crushing of Japan.
ROHR
AIRCRAFT CORPORATION

Buy more bonds—keep the bonds you buy!

Plan now with bonds for the future you want most. War bonds are a double barreled weapon. They fight now on the battle fronts. They will help you win the peace to come! Think it over. Buy and keep more bonds!

CHULA VISTA, CALIFORNIA • *HELPING TO WRITE THE STORY OF TOMORROW*

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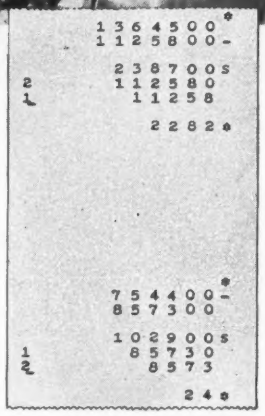

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of the estimators. Here were quite a number of them, seeing practically eye to eye on the main factors entering into a full employment GNP, betrayed into an appearance of dissension by the accident of different arbitrary price levels. Remember that the purpose always was to gage the actual physical step-up in activity that would do the job. It is therefore necessary to adjust to an approximately common price basis. An index rising somewhat more sharply since 1939 than that of the United States Bureau of Labor Statistics' Cost of Living Index is reasonably justified by the available facts and has therefore been used to put all of the 1950 GNP figures in table II on a single 1943 price level basis. It is as follows: 1939, 100; 1935-1939, 101; 1940, 101; 1941, 107; 1942, 120; 1943, 130; 1944, 132.[4]

Making price indices is an exceedingly complicated business, and the author certainly does not defend his use of this one on scientific grounds. There must, however, be a means of arriving at approximations. It is neither as high nor as low as various experts might prefer. It is a "cost of living" index and one can only shut his eyes and hope that it will also pass as a deflator for capital goods and Government expenditures on the ground that the different price gyrations of and within these areas will wash each other out. In fact,

[4] With the exception of the year 1944, this index was developed by Mr. Everett E. Hagen, formerly of the Federal Reserve Bank and now of the Office of War Mobilization, for his own calculation. For 1944 Mr. Hagen used 133. His own complete treatment of the differences in GNP projections will appear in the May *Review of Economic Statistics.*

Significance of Gross National Products Projections

Planning for full employment will of course continue to draw heavily upon other well-tested statistical series as well as Gross National Product. Prominent among the former are the monthly series of the Census Bureau on the labor force and employment, unemployment compensation records of the Social Security Board (although they still do not cover all fields of employment), the National Industrial Conference Board series showing excesses over normal labor force (for long term analyses), the State non-agriculture employment series of the Bureau of Labor Statistics, and, of course, the old National Income series and the Federal Reserve System's Index of Industrial Production for general analytical and planning purposes.

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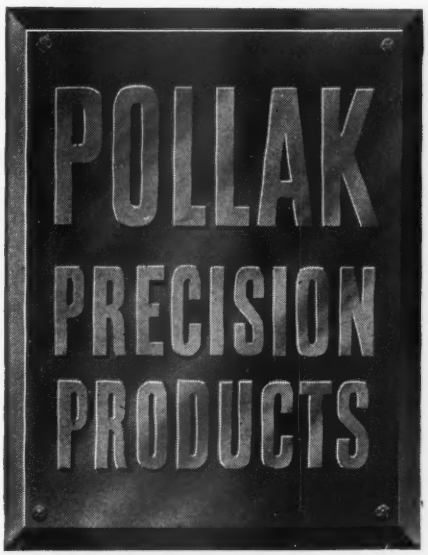

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if the year by year prices of all goods everywhere, of every type of quality and in the right volume, through every kind of outlet, could be passed through a magic register, the resulting "index" would be something no one ever heard of. Even normal intricacies are compounded now by the technical and logical difficulties of comparing with prices of normal output the prices of highly specialized and ephemeral war-time goods.

To focus experimentally on the real purpose of measuring the increases in actual output of goods and services that full employment in 1950 might seem to require, table III has been devised. This table shows the percentage increases in national activity from a common year (1940) that might be implemented by our larger labor force in 1950, with its higher productivity per worker that in the light of past performances each estimator expects.

To the statistically faint-hearted, the

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best hope still seems to be not to insist on precision in the new numerology. It is full of intangibles, most prominent among which are (1) the realistic size of our future "labor force," (2) the rate at which past achievements in the way of increasing per capita ouptut can be extended in the future, and (3) the point of practical irreducibility in the number of unemployed necessary to over-all flexibility. These factors will be considered in subsequent articles.

It is evident that the estimating techniques are still far from stabilized, and the refinements so far found possible may still be significant principally as signs of valiant mathematical deeds in years to come. One central fact is still undisturbed. The new employment and production goals must be quite high in comparison with anything we have known. Those who tire quickly may be satisfied that a present difference of opinion among these hardy estimators to the extent of $20 billion or so out of a possible $200 billion will not put the Constitution in jeopardy. Getting into that general neighborhood, and showing some ability to stay there, should rate fairly good marks with those who pass on political systems.

LABOR-MANAGEMENT

(Continued from page 17)

just trying to help the Committees in critical war plants, without nursing those in less essential industries. In short, there is very little magic in the Labor-Management idea by itself. To produce any tangible fruit, it must be sincerely, patiently, and skillfully implemented.

This becomes clear the moment one lists the functions a good Labor-Management Committee performs.

For a good Labor-Management Committee:

1. *Establishes suggestion* systems to secure production ideas from all workers to speed production, save man-hours and materials, remove bottlenecks, eliminate accident hazards, and so on.

2. *Reduces absenteeism* through an analysis of causes and by attacking the causes. The measures taken include car-pooling, improving public transportation, health and safety programs, increasing shopping facilities and day nurseries for working mothers, and

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. . . your chances for cost reduction through incentives? Or, have you been kidding yourself that your production was too varied and too small?

. . . the advantages of a new plant lay-out and the savings that would result?

. . . getting really acquainted with your supervisory force, and really selling them on their firm?

. . . grooming a new product for post-war sales to take up the slack during your conversion period and getting back to normal?

. . . giving your office payroll a real going-over and making sure that your business really justifies all the extra help you have put on?

. . . the advisability of bringing in additional professional engineering help to get your new products into production sooner, or have you satisfied yourself with the thought that the extra cost would be wasteful, when actually it costs less—(you'll not only get into production quicker and more efficiently, but you will balance the earnings against what you might think would be additional cost). Remember, too, when building up an engineering crew, you often must hire ten engineers to get one good one, and the extra money you would have to pay now could upset your entire force.

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personally contacting chronic absentees to secure their cooperation and attendance.

3. *Reduces turnover* by improving working conditions and providing for exit interviews, better plant housekeeping, and informational campaigns designed to bring production problems of the plant to constant attention of workers.

4. *Recruits additional workers* by coordinated publicity through all media and by enlisting plant personnel to bring in their friends and relatives.

5. *Solves production problems* by departmental sub-committees, meeting weekly, to decide what the outstanding problems are and to seek solutions in mutual discussion.

6. *Stimulates individual and group effort* by posting daily and weekly production quota charts, posting regularly the achievements of each department against quota, and by establishing inter-departmental competition, and so on.

7. *Conserves tools and equipment* by educational programs to show workers the proper way to use tools and equipment, by publicizing cost of broken tools and the difficulty of replacement, by establishing better stock-room and tool crib procedures, by inaugurating tool repair departments, by training workers on better use of tools, jigs, micrometers, gages, and so on.

8. *Improves quality of production* by educational campaigns designed to impress workers with need to conserve materials and to "make it right," by inaugurating specific procedures designed to cut down rejects, and to check for faulty or improper tools, worn bearings, and other causes for spoilage on production lines.

9. *Eliminates accidents* by jointly approved safety regulations, periodic inspection of plant for hazards by joint committees, by training workers in use of safety devices and in the need for these by reporting hazards needing attention, by analyzing accidents for their causes, and so on.

10. *Prevents demoralization of plant morale* due to departmental and plant-wide cancellations and to unfounded rumors, by arranging for prompt dissemination to workers of all the pertinent facts, by arranging for transfer of workers released, by scotching false rumors with the publication of true facts, and so on.

11. *Sponsors social and health programs* including proper in-plant feeding, dissemination of sound dietary information to workers, installation of "music while you work" programs, and

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during the war, promotes sale of bonds and donation of blood.

Note that from this list of functions, collective bargaining and the handling of grievances are excluded. Such matters definitely must be kept from the agenda of Labor-Management Committee meetings. Instead, they should be handled through the regular wage negotiation and grievance machinery. For the over-all purpose of Labor-Management Committee activities is non-controversial; it is merely to improve the production picture. This of course includes reducing unit costs. All the other functions enumerated above are merely aids to this over-all purpose of achieving more, better, and cheaper production.

But how does a Labor-Management Committee organize to handle the eleven functions listed above, and the innumerable miscellaneous jobs it undertakes once it "gets rolling"?

Let's look at an actual and highly successful example—the Labor Management Production Committee in the Springfield, Mass., plant of the Westinghouse Electric & Manufacturing Company.

In March 1942, the Company and Local 202, United Electrical, Radio and Machine Workers of America (CIO), established a top advisory committee composed of three top executives and three top union men to make policy and generally direct the activity. Under this top committee, eight activity committees were set up—each responsible for one or more of the functions I have listed as properly belonging to the Labor-Management idea. These eight activity committees have a total membership of 60 persons, management and labor being equally represented.

Department Committees

To implement the programs of these activity committees, an additional committee is set up in each department of the plant. These department committees are *the action* committees. There are 48 department committees. Each department committee consists of a foreman and a production clerk, representing production; an inspector, representing inspection; and a labor representative (shop steward). The inspector and production clerk are usually members of the union, so the ratio is about one management to three labor on these department committees.

There are two committees in most departments and occasionally three, if the number of employees on the third

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shift warrants the establishment of a committee. These committees were also chosen from the standpoint of effectiveness, with labor, production, and inspection always represented. They meet weekly. There are 184 department committee members.

Some managements regard many of the above mentioned activities of Labor-Management Committees as being of doubtful value intrinsically, but still justifiable in their contribution to the creation of *an atmosphere* in which employees will become interested in the company's problems, and will contribute to the constructive solution of these problems, especially the problem of getting out more and better production at a lower cost. One medium for achieving this paramount objective is the employee's suggestion system. But many constructive ideas for improving production, not formally submitted as suggestions by individual employees, are developed in the general discussion of particular problems in the Committee meetings themselves. The total improvement in production resulting from the pooling of the best ideas of labor and management is the pay-off for the company.

Rewarding Suggestions

Of course, there is nothing novel in the idea of management encouraging its workers to submit suggestions by which the company may profit. That practice is as old as the factory system. But a friend of mine, a union representative on the Labor-Management Committee in a big plant in the Middle West, told me this story to illustrate why the Labor-Management Committee plan is necessary to a continuously successful employee's suggestion system. "Years ago," he said, "when I was a mechanic in a can factory, I developed a scheme for more accurate cuttings, which achieved a tremendous saving in scrap. They never paid me one cent extra. Do you think I ever gave them another suggestion? Not that I didn't have plenty. From that day until two years ago when I got into this plant that has a Labor-Management Committee, I never made another suggestion. But in the two years I've been here, I've turned in six suggestions, four of which have been adopted. And I've collected for every one of the four."

Under the Labor-Management system a worker's suggestion, identified by number, but not by his name, comes before a group where he has equal representation with management, where his idea is impartially reviewed, and

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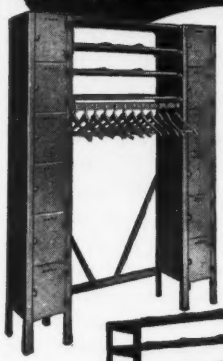

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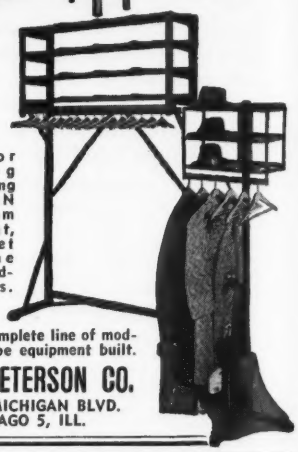

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where the results of its adoption are carefully checked. The benefits are equitably divided between him and the company. In cases where it is difficult to measure these benefits strictly in terms of dollars, the Committee tries to appraise as fairly as possible the value of the suggestion to the company and to accord the person submitting the suggestion some tangible recognition.

Sometimes this takes the form of a printed certificate, sometimes a letter from the President, sometimes a button, sometimes a small monetary award. But in cases where the monetary value of a suggestion can be computed, a computation is made on an annual basis and the worker submitting the suggestion is given a cash award equal to a percentage of the annual saving to the company. The award varies in the better managed companies from 10 to 50 per cent. Currently the usual figure is 10 per cent.

National Recognition

The War Production Drive Division in the War Production Board has made a notable contribution in furthering recognition of employees submitting outstanding ideas. The Drive encourages any Labor-Management Committee receiving an employee's suggestion which it considers valuable to submit that suggestion to the Awards Branch, War Production Drive Headquarters, War Production Board, Washington, D. C. In Washington the suggestion is reviewed by a committee representing labor, management, and the best technical experience. This committee awards four types of recognition to the originator of a suggestion which it considers meritorious: "Letter of Commendation, for Ideas of Value Mainly in Originating Plant"; "Honorable Mention for Those Ideas of Local Value Which Give Promise of Wider Application throughout Industry"; "A Certificate for Those Ideas of Significant Value Which definitely Have wide Application throughout Industry"; and "A Citation for Those Ideas Which Represent an Outstanding Contribution to the War Program."

In addition to honoring workers for production ideas, War Production Drive Headquarters also sponsors a nation-wide exchange of all good ideas. Brief descriptions of these suggestions and their results are published in informative technical bulletins issued by Headquarters to all committees, and to others on request. Committees and others are then at liberty to request complete information from Headquar-

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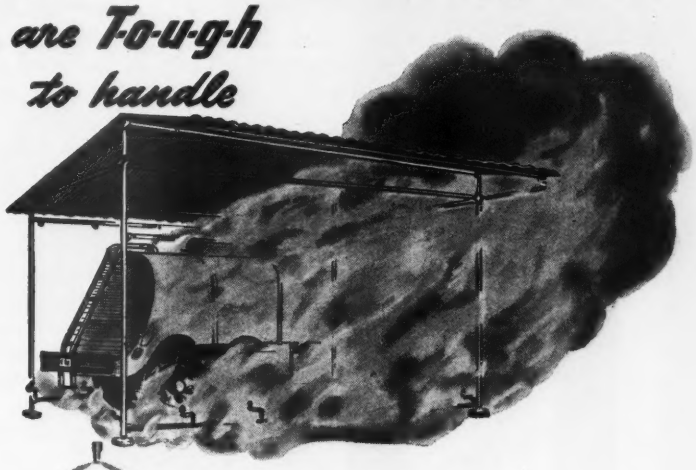

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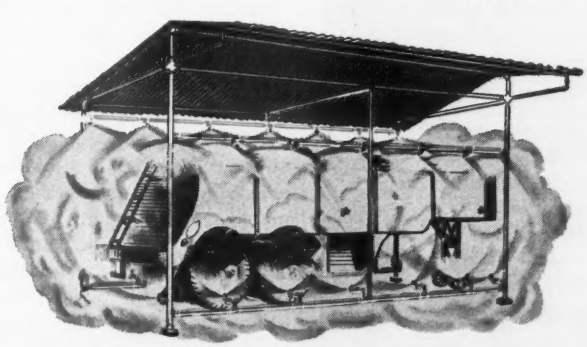

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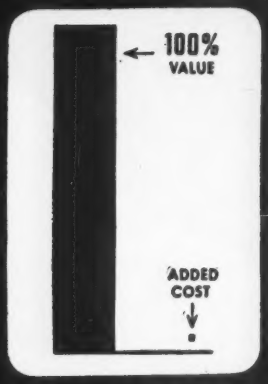

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ters on any suggestions briefed in these bulletins which they believe will expedite production in their plants. This committee of the War Production Drive in Washington receives between 400 and 600 suggestions monthly from Labor-Management Committees in plants throughout the country.

Of the 450 suggestions received by the War Production Drive from Labor-Management Committees and discussed at the meeting in January 1945, 164 whose value could be measured by the plants from which they emanated in terms of annual savings in man-hours, were followed up. According to the statements of the plants themselves, the total saving amounts to 2,023,386 man-hours per year. This from slightly less than one-third of one month's suggestions.

Suggestions Saved $25,543,124

Workers like recognition for their individual achievements. In other words, workers are human. But it has taken management a long time to realize this and to capitalize on it, and even longer to recognize that in the labor employed in every plant it has a vast reservoir, heretofore largely untapped, of constructive suggestions for the betterment of the business. On October 23, 1944, the U. S. Maritime Commission estimated that the suggestions turned in by employees of its contractors had saved in labor and material costs a total of $25,543,124.

Most business men know of instances in various organizations where someone, often "way down the line," had the solution to a problem which was being studied either by management talent or by outside consulting talent. Often this "someone" had been unwilling to submit his idea or plan directly to the management or, if he had done so, had been unable to obtain serious consideration. In short, if more companies had an efficient Labor-Management Committee there would be less problems to be studied by management and by management consultants. Not that I foresee in the immediate future the abolition of this need. For the number of manufacturing plants that can meet the conditions essential to the successful functioning of the Labor-Management idea is still insignificant and for sometime will remain so in comparison to our total number of plants.

We leave out the small plants. Plants of less than 100 employees scarcely need a formalized Labor-Management organization. Even in the larger plants, the soil is not always favorable for culti-

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	Total
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Wholesaling	4,987
Transportation, Communication, Utilities, Retail, etc.	1,606
Financial, Banking, Insurance	1,362
TOTAL	20,666

In addition, within an average total edition of 56,151, there are 6,603 Owners, Partners, and Chairmen; 2,320 Vice-Presidents; 2,375 Treasurers; 2,937 Secretaries; etc., distributed approximately as above.

These executives are associated with 28,790 manufacturers; 12,397 wholesalers; 6,191 transportation, communication, utility and retail establishments, etc.; 4,213 banking, financial and insurance companies.

Detailed breakdown of circulation, by titles, type and size of business, available, as well as evidence of unusual results secured by advertisers.

vation of this crop. It is extremely difficult to set up a successful Labor-Management Committee in a plant where there is active friction between labor and management. Again, few Labor-Management Committees can function with full effectiveness where the management is unwilling to take its workers into its confidence and to trust the labor members of its committee with data on costs. Conversely, unless the labor group has constructive leadership, the Committee idea will fail.

Staff Assistance

There are also difficulties peculiar to the establishment of Labor-Management Committees in unorganized plants or in plants where rival unions are contending for power. However, approximately 30 per cent of the Committees are in unorganized plants, and the War Production Drive Headquarters has yet to receive any complaint directly or indirectly from any non-union plant that it's Labor-Management Committee has been used to foster union organization. And finally, except in small plants, a Labor-Management Committee will fail unless it is given adequate, relatively high-grade staff assistance, or unless management itself assumes responsibility for carrying out accepted recommendations of the committee. Such assistance costs money, and some managements are not prepared to stand this expense.

To get an idea of what the costs are, consider the Goodyear Aircraft Company, Akron, Ohio, which has one of the country's most successful Labor-Management Committees and group of sub-committees, adequately staffed by ten full-time people. At the head of this staff, and acting Secretary of the top Committee, is A. B. Cunnington, the company's Director of Industrial Relations. Mr. Cunnington has five men, four with engineering training. These engineers personally investigate suggestions submitted to the Committee and, where it appears desirable to do so, assist the originator of the suggestion in developing his idea. This assistance may take the form of a mechanical drawing, a time and motion study, the development of an experimental model, and so on.

In cases where photographs will clarify a suggestion, such photographs are taken by the full-time photographer assigned to Mr. Cunnington. As many of the suggestions submitted are procedural in character, writing them out in detail entails considerable typing. Mr. Cunnington's staff, therefore, in-

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(continued from preceding page)

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cludes four girls to handle this work. Certain of these girls also take minutes of Committee meetings, while others operate follow-up tickler files to assure that approved suggestions do not get lost, but actually are put into operation, and that other matters considered by the Committees and requiring further action, receive such action according to schedule.

While the service staff described above is more elaborate than is necessary in many plants, there is no question that if the Labor-Management Committee plan is to bear fruit, a service staff commensurate with the size of the plant and the complexity of its problems is necessary. In the plants where the Labor-Management idea is working most successfully, this service staff is given a regular budget.

Post-War Committees

Because the Labor-Management Committee movement made such relatively slow progress on a national basis prior to World War II, and has developed so rapidly during the conflict, primarily as a result of the efforts of the War Production Drive Division in the War Production Board, one naturally wonders to what extent present Labor-Management Committees will continue to function after hostilities have ceased and whether new Committees will be formed in appreciable numbers. To this question there is at present no definitive answer. There is little doubt, however, that when the war pressure eases many plants whose Labor-Management Committees have been only mildly successful, will discard the plan.

On the other hand, companies which have found the cost of servicing such committees has been more than repaid in reduction of operating costs and improvement in output, and whose relations with labor have improved through the mutual understanding of and sympathy with each other's problems—a condition which the better Labor-Management Committees have achieved—will continue the plan.

More than 500 such companies already have indicated their intention of continuing with their Labor-Management Committee when they return to their normal civilian production. They include such companies as: E. I. DuPont DeNemours & Co., Standard Oil Company, Thomas A. Edison, Inc., Bendix Aviation Corporation, Baldwin Locomotive Works, certain plants of the General Electric Company, Westinghouse Electric & Manufacturing Com-

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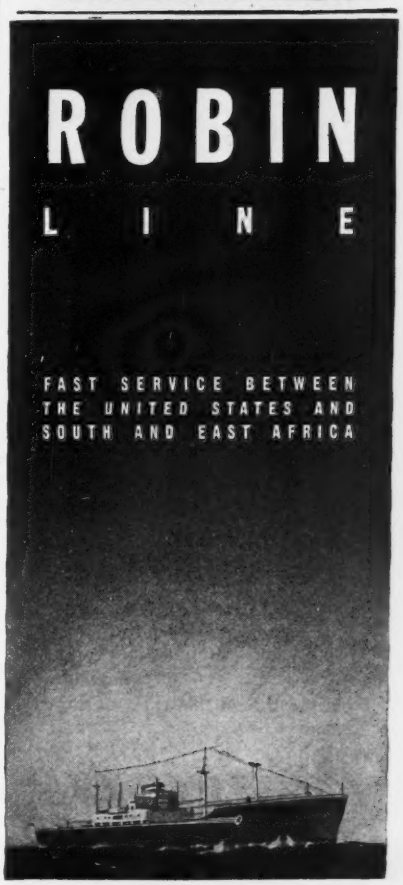

pany, Campbell Soup Company, and Curtiss-Wright Corporation.

As far as its *general* acceptance by American industry as a mechanism for reducing costs and increasing output is concerned, the Labor-Management Committee plan has some distance yet to go. But, as just indicated, many of the blue chip companies have found the plan of value and intend to continue using it. It was these companies that led the field in the adoption of time and motion study, belt-line production, scientific cost-accounting, and other techniques of management now in general use. In time, the rest of industry finally follows their leadership.

The Labor-Management Committee plan, therefore, like that of these other devices for improving production and profits, now that it has passed a working test in a sufficient number of outstanding cases, probably eventually will follow the same pattern. I believe that ten years from now the Labor-Management Committee plan will probably be as much a part of management technique in well-operated companies as is mechanized accounting today.

DUN'S REVIEW

290 BROADWAY NEW YORK 8, N. Y.

Willard L. Thorp, *Editor;* Norman C. Firth, *Managing Editor and Business Manager.*

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THE CONTENTS of this magazine are indexed in the Industrial Arts Index and also annually in an index available upon request to the publishers. . . . Member C.C.A. . . . Volume 53, No. 2205.

MORE DETAILED breakdowns of those data originally compiled by the publishers appear monthly in DUN'S STATISTICAL REVIEW, largely in tabular and chart form, $1 a year, $2 outside of the United States. These data include business failures, bank clearings, building permits, price indexes, and regional trade information; they are summarized and interpreted each month in DUN'S REVIEW (see pages 18, 19, 20, 22, 24, and 26).

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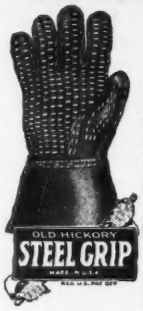

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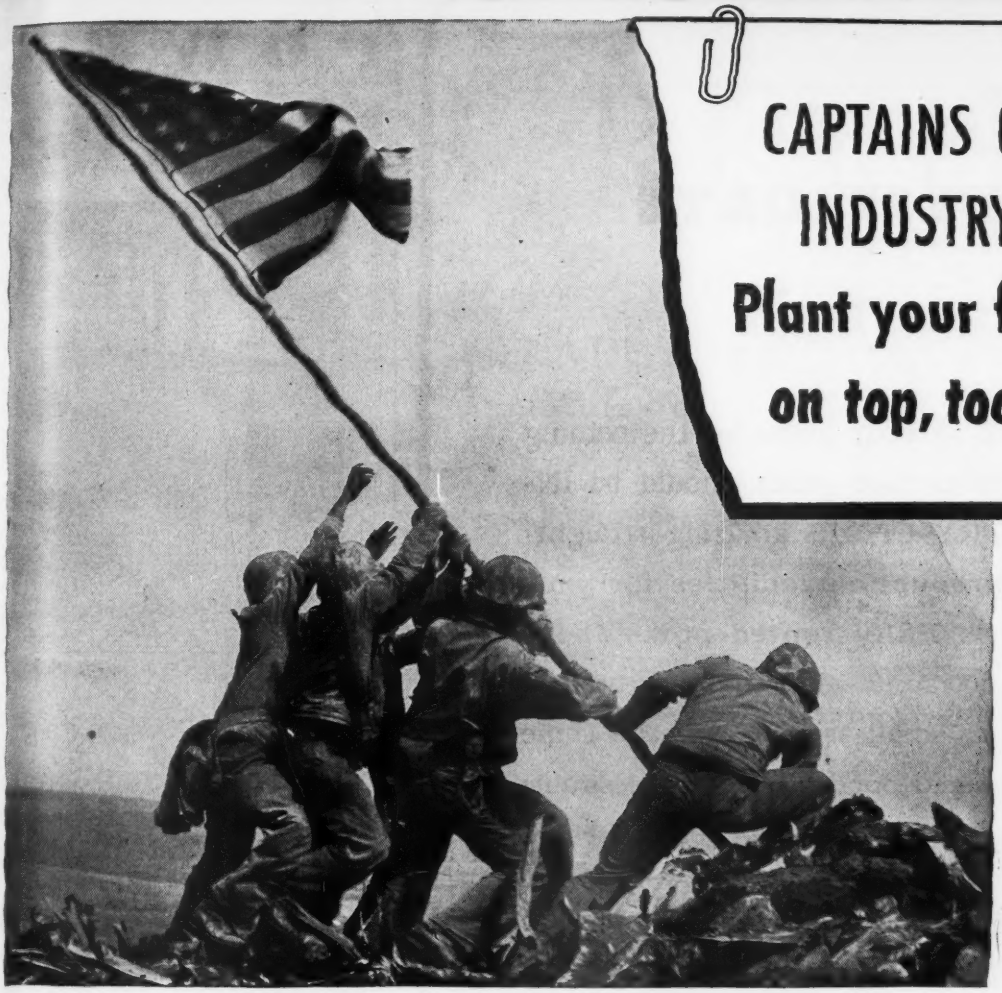


CAPTAINS OF INDUSTRY Plant your flag on top, too!

This year we've got to make 2=3!

This year we've got to make 2=3! We've got to lend Uncle Sam in 2 chunks almost as much as we lent last year in 3. Which means that, in the approaching 7th War Loan, each of us is expected to buy a BIGGER share of extra bonds.

The 27 million smart Americans on the Payroll Savings Plan are getting a headstart! Starting right now they are boosting their allotments for April, May and June—so that they can buy *more* bonds, and spread their buying over *more* pay checks.

Our Marines went over-the-top at Iwo Jima in the greatest, and hardest, battle in the Corps' history. Now it's *your* turn! Your quota in the 7th is needed to help finish this war, sidetrack inflation, build prosperity. So, captains of industry, plant your flag on top—like the Marines at Iwo Jima!

★

CAPTAINS of INDUSTRY—here's your *Check List* for a successful plant drive:

- ★ Get your copy of the "7th War Loan Company Quotas" from your local War Finance Chairman. *Study it!*
- ★ Determine your quota in E Bonds — the backbone of every War Loan.
- ★ Arrange for plant-wide showings of "Mr. & Mrs. America"—*the new Treasury film.*
- ★ Distribute "How to Get There"—a new War Finance Division booklet explaining the benefits of War Bonds.
- ★ Circulate envelopes for keeping bonds safe.
- ★ Display 7th War Loan posters at strategic points.
- ★ And—see that a bench-to-bench, office-to-office 7th War Loan canvass is made.

★

The Treasury Department acknowledges with appreciation the publication of this message by Dun's Review

SPEED UP YOUR PAYROLL SAVINGS PLAN

★ *This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★

INVESTIGATE

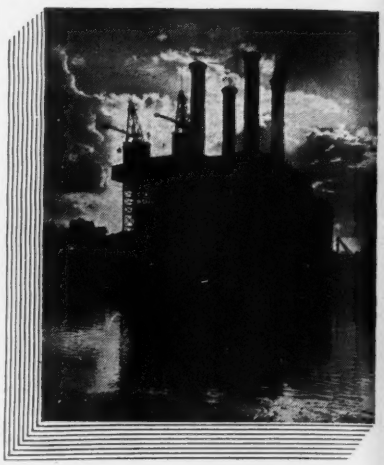
Basic in your plans for the coming shift to civilian goods, should be INDUSTRY CITY'S amazing straight-line production facilities for your factory. Fully rented now—about 6,000,000 sq. ft.—but manufacturers—large or small—soon may have some exceptional opportunities for desirable space—ideally located. Let us record your name on our "future priority" list. No obligation.

Brokers' Inquiries
are invited, too, of course.

Industry City ...THE MOST IMPRESSIVE
BUSH TERMINAL BUILDINGS CO.
INDUSTRIAL ADDRESS IN AMERICA

E. T. Bedford 2nd, President
Manhattan Offices: 100 Broad Street
Telephone WHitehall 4-4670

POWER STATION



THE hidden cushion takes the shock
Of Earth and Heaven's secret powers
Which fall with fury on the mock
Cathedral with its awkward towers.

The latticed steel and jewelled spires
Glint against the evening sun,
Holding aloft the singing wires
With the pulse of many and heart of One.

Button and switch are quiet goads
To send red horses over the hill
Or rein them down when far-off loads
Pause with the quiet of mine and mill.

Out of the night electric ghosts
Tear to tatters the misty shroud,
And dance a reel on serried posts
And poke bright fingers through a cloud.

And when the wraiths take light and form
In flashes through the enchanted dark,
A trap is set to meet the storm
And all the bluster of a spark;

Let lightning swing its saraband
Amid the sky's prodigious sound,
There is a cupped and glovéd hand
To hurl it broken to the ground.

A. M. SULLIVAN